

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735878

Luminaire Tested: S122DRP-S485D940-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735878
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S485D940-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

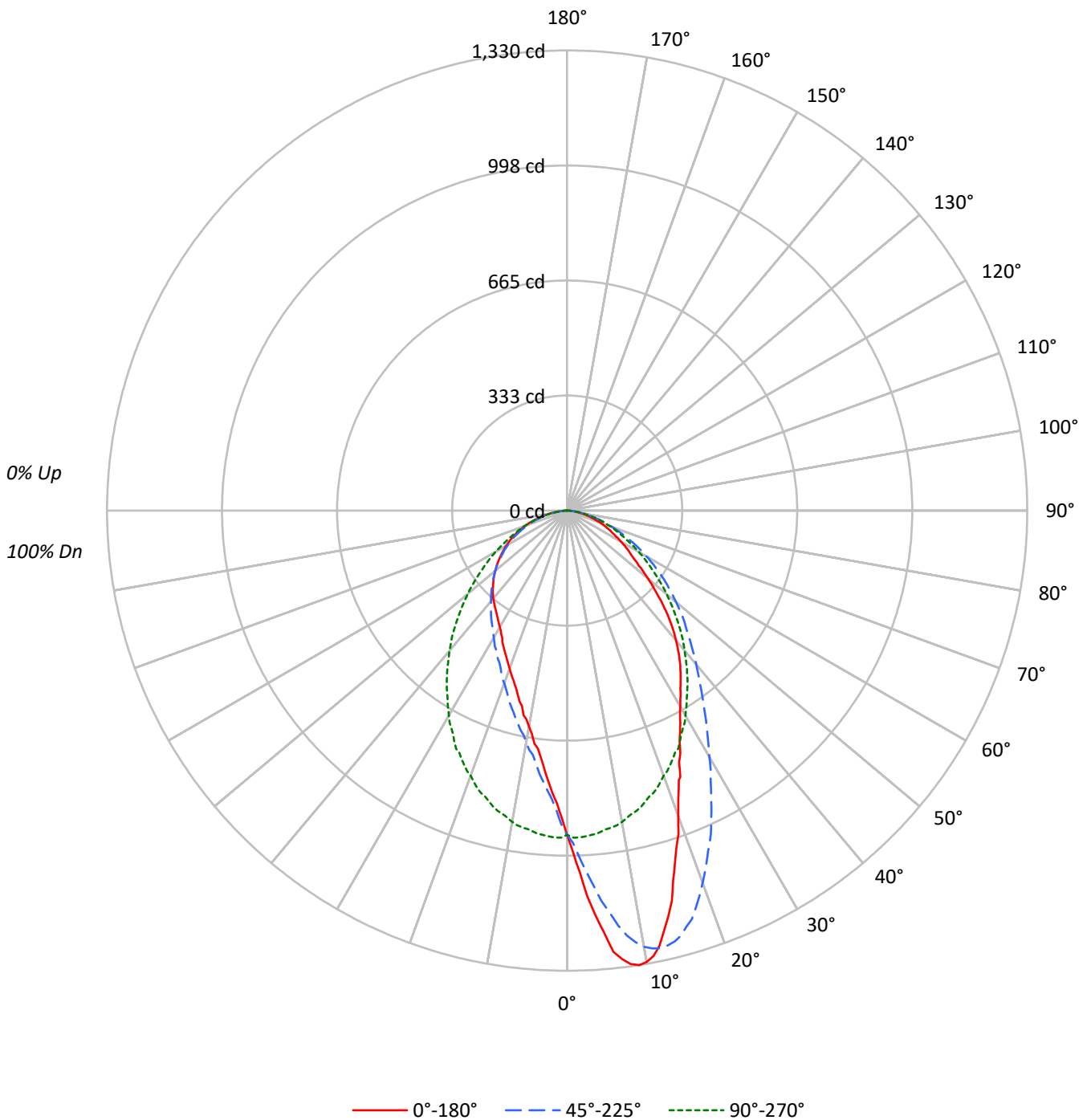
Lumens per Lamp: N/A
Luminaire Lumens: 1906.3 lumens
Efficiency: N/A
Efficacy: 97.3 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 19.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76					74				
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66					64				
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58					56				
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51					49				
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46					44				
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41					39				
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37					35				
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34					32				
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	18008	18008	18008	18008	18008
5°	23619	21830	18102	15183	14486
10°	25853	24985	17833	13272	12366
15°	23256	25308	17350	11981	10969
20°	19191	23406	16689	10866	9945
25°	16403	20882	16101	10051	9219
30°	14507	18237	15179	9419	8632
35°	13417	16153	14234	8975	8386
40°	12280	14573	13248	8596	8338
45°	10819	13303	12254	8332	8226
50°	9108	12266	11226	8107	8125
55°	7661	11287	10141	7832	7986
60°	6908	10199	9207	7600	7823
65°	6267	8960	8200	7236	7673
70°	5648	7744	7385	6693	7272
75°	4924	6550	6313	6075	6647
80°	4129	5136	5136	5280	5557
85°	3132	3683	3837	4124	3970

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 19534 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.2	4.8
10°-20°	253.1	13.3
20°-30°	331.9	17.4
30°-40°	350.8	18.4
40°-50°	325.7	17.1
50°-60°	260.7	13.7
60°-70°	178.3	9.4
70°-80°	92.0	4.8
80°-90°	21.9	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	677.1	35.5
0°-40°	1027.9	53.9
0°-60°	1614.2	84.7
0°-90°	1906.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1906.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	937	937	937	937	937	
5°	1224	1131	938	787	751	121
15°	1169	1272	872	602	551	321
25°	773	985	759	474	435	356
35°	572	688	607	382	357	357
45°	398	489	451	306	303	306
55°	229	337	303	234	238	209
65°	138	197	180	159	169	137
75°	66	88	85	82	90	71
85°	14	17	17	19	18	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	936.9	936.9	936.9	936.9	936.9	936.9	936.9	936.9	936.9
1°	988.4	983.3	960.7	962.0	945.3	926.6	909.2	898.3	889.3
2°	1046.4	1036.1	1000.7	983.3	945.3	905.4	869.3	859.7	847.4
3°	1116.6	1092.1	1043.2	1002.0	944.0	886.1	836.5	819.1	817.2
4°	1173.2	1151.4	1086.3	1021.3	940.8	867.4	811.4	792.7	783.7
5°	1224.1	1209.9	1131.4	1045.7	938.2	849.3	786.9	761.1	750.8
6°	1282.7	1253.7	1167.4	1070.2	933.7	832.0	765.0	734.1	719.9
7°	1306.5	1288.5	1208.0	1086.3	927.9	812.0	737.3	703.8	693.5
8°	1323.3	1316.2	1240.2	1112.7	925.3	793.3	712.8	692.2	680.0
9°	1330.4	1324.6	1263.4	1123.7	920.8	783.7	700.6	666.5	652.9
10°	1324.6	1327.1	1280.1	1140.4	913.7	763.7	680.0	650.4	633.6
11°	1311.0	1317.5	1289.2	1159.7	904.7	747.6	661.3	631.1	615.0
12°	1285.3	1299.5	1293.0	1173.2	896.4	733.4	648.4	619.5	605.3
13°	1245.4	1276.9	1290.4	1179.0	891.2	717.3	632.3	598.9	580.8
14°	1209.3	1242.1	1283.4	1191.9	882.2	699.3	617.5	584.0	568.6
15°	1168.7	1206.7	1271.8	1195.8	871.9	684.5	602.1	565.4	551.2
16°	1112.1	1162.9	1250.5	1200.3	859.7	667.8	587.9	553.1	534.5
17°	1065.1	1119.8	1234.4	1202.9	853.2	654.9	575.7	534.5	522.2
18°	1021.9	1083.7	1205.4	1200.9	842.9	640.1	557.6	520.9	509.4
19°	987.8	1038.0	1176.5	1196.4	828.7	625.9	544.1	511.3	497.8
20°	938.2	996.2	1144.3	1194.5	815.9	613.0	531.2	497.8	486.2
21°	897.0	956.2	1114.6	1188.1	806.8	600.8	521.6	484.9	474.6
22.5°	842.9	895.1	1065.1	1175.8	786.9	580.2	500.3	472.6	458.5
23°	836.5	880.9	1052.2	1172.0	781.1	575.7	493.3	465.6	454.0
24°	795.9	842.9	1021.9	1159.7	766.3	561.5	481.7	457.2	443.7
25°	773.4	812.0	984.6	1148.1	759.2	548.6	473.9	446.2	434.7
26°	741.8	786.2	951.1	1131.4	743.7	537.0	461.7	436.6	425.6
27°	718.6	756.0	916.3	1119.2	725.7	524.8	452.0	426.9	413.4
28°	696.1	732.2	882.8	1099.2	712.8	511.3	445.0	418.6	405.7
29°	672.9	704.5	855.8	1083.7	700.6	499.7	434.0	407.6	395.4
30°	653.6	682.6	821.7	1063.1	683.9	486.2	424.4	399.9	388.9
32.5°	609.2	633.6	752.1	1014.2	643.9	459.1	401.2	378.6	372.2
35°	571.8	587.9	688.4	959.5	606.6	430.1	382.5	360.6	357.4
37.5°	532.5	548.0	630.4	902.1	567.3	403.7	361.2	347.1	344.5
40°	489.4	510.0	580.8	845.5	528.0	378.0	342.6	331.6	332.3
42.5°	446.2	470.1	532.5	779.2	491.3	353.5	324.5	316.8	318.1
45°	398.0	428.2	489.4	718.6	450.8	330.3	306.5	302.6	302.6
47.5°	347.7	386.4	452.0	656.2	412.1	307.2	289.1	286.6	287.8
50°	304.6	339.4	410.2	595.6	375.4	285.9	271.1	270.5	271.7
52.5°	262.1	296.9	373.5	539.0	338.1	266.6	253.7	253.7	255.0
55°	228.6	255.6	336.8	479.7	302.6	244.1	233.7	235.7	238.3
57.5°	205.4	223.4	300.7	423.1	269.8	222.2	215.7	217.0	220.2
60°	179.7	193.8	265.3	370.9	239.5	200.9	197.7	200.3	203.5
62.5°	156.5	168.7	231.8	323.9	206.7	180.3	179.0	182.9	186.1
65°	137.8	146.2	197.0	276.2	180.3	159.7	159.1	164.8	168.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	<i>118.5</i>	124.9	166.8	231.2	153.9	139.1	139.1	145.5	148.7
70°	<i>100.5</i>	105.6	137.8	190.6	131.4	118.5	119.1	126.9	129.4
72.5°	<i>81.8</i>	86.3	112.0	153.3	106.2	99.2	101.1	107.5	110.1
75°	<i>66.3</i>	69.5	88.2	121.1	85.0	79.2	81.8	87.6	89.5
77.5°	<i>50.9</i>	53.4	65.0	88.9	65.0	61.8	64.4	69.5	69.5
80°	<i>37.3</i>	38.0	46.4	62.5	46.4	44.4	47.7	50.2	50.2
82.5°	<i>24.5</i>	25.8	30.3	39.9	30.9	30.3	31.6	33.5	33.5
85°	<i>14.2</i>	14.8	16.7	21.9	17.4	17.4	18.7	18.7	18.0
87.5°	<i>5.8</i>	6.4	7.1	8.4	7.7	8.4	8.4	7.1	7.7
90°	<i>0.0</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	19.26	20.78	19.63	21.10	21.41	18.84	20.36	19.20	20.67	20.99
	3H	20.46	21.83	20.84	22.16	22.52	20.35	21.72	20.73	22.05	22.41
	4H	20.86	22.14	21.26	22.49	22.87	20.88	22.16	21.28	22.51	22.89
	6H	21.11	22.30	21.53	22.66	23.06	21.23	22.42	21.64	22.78	23.17
	8H	21.18	22.30	21.60	22.69	23.10	21.33	22.46	21.75	22.85	23.25
	12H	21.21	22.29	21.64	22.67	23.10	21.38	22.46	21.81	22.84	23.27
4H	2H	20.32	21.60	20.72	21.95	22.33	19.91	21.19	20.31	21.54	21.92
	3H	21.68	22.75	22.09	23.15	23.55	21.53	22.60	21.95	23.00	23.40
	4H	22.14	23.10	22.57	23.52	23.96	22.12	23.08	22.55	23.49	23.93
	6H	22.45	23.29	22.91	23.73	24.19	22.54	23.37	22.99	23.81	24.27
	8H	22.53	23.31	23.00	23.76	24.22	22.65	23.43	23.12	23.88	24.34
	12H	22.58	23.28	23.06	23.76	24.23	22.73	23.43	23.21	23.90	24.37
8H	4H	22.50	23.28	22.96	23.72	24.19	22.46	23.24	22.92	23.68	24.15
	6H	22.90	23.54	23.40	24.04	24.51	22.98	23.62	23.47	24.11	24.59
	8H	23.02	23.60	23.54	24.11	24.60	23.14	23.72	23.66	24.23	24.72
	12H	23.11	23.62	23.62	24.11	24.68	23.27	23.78	23.78	24.27	24.83
12H	4H	22.52	23.22	23.00	23.70	24.17	22.47	23.17	22.96	23.65	24.12
	6H	22.95	23.52	23.46	24.03	24.52	23.02	23.60	23.53	24.11	24.59
	8H	23.12	23.62	23.62	24.12	24.68	23.24	23.75	23.75	24.24	24.80