

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: P735876

Luminaire Tested: S122DRP-S485D930-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735876
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-S485D930-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

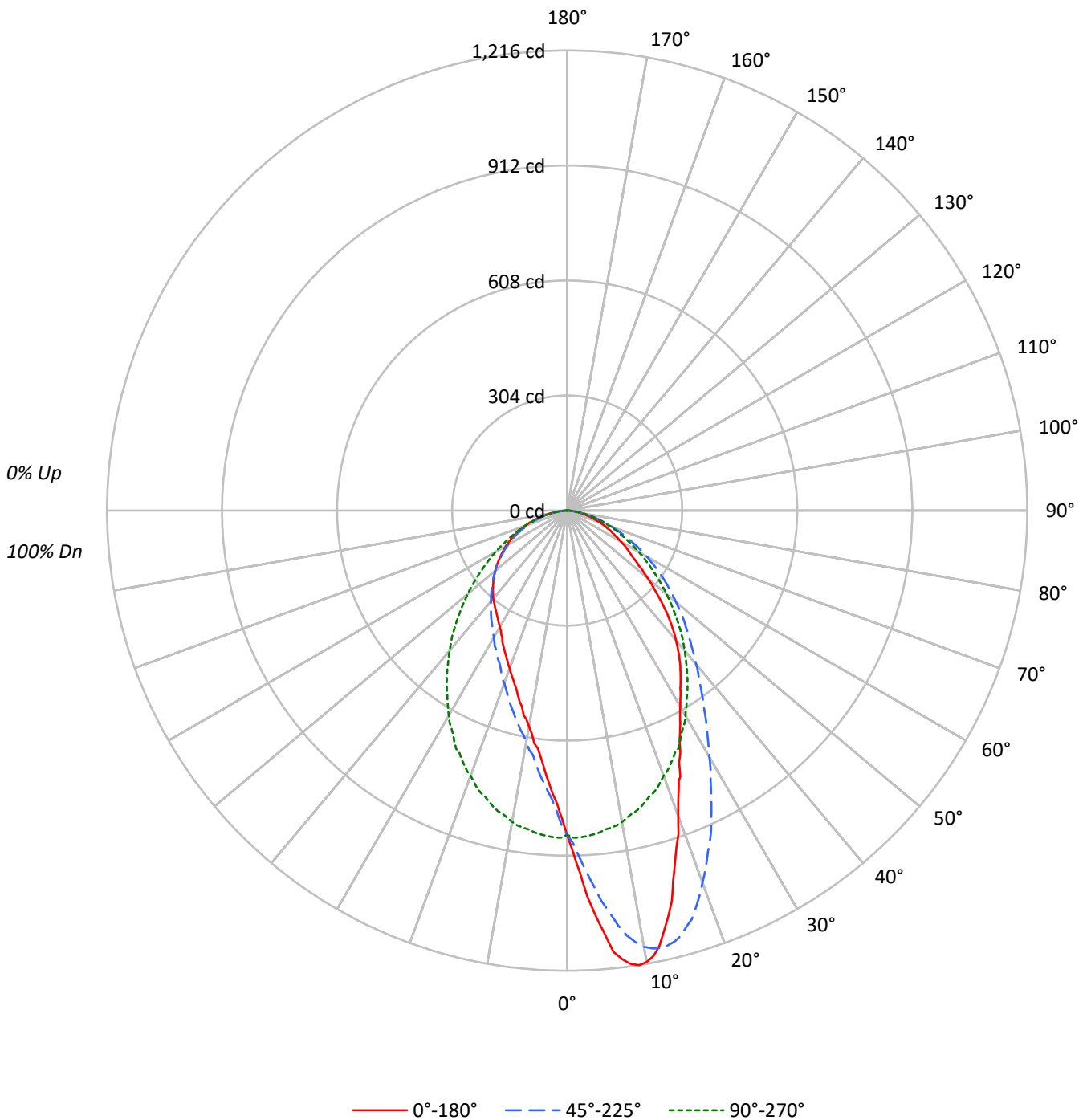
Lumens per Lamp: N/A
Luminaire Lumens: 1743.0 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

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					86			
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74					74			
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64					64			
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56					56			
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49					49			
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44					44			
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39					39			
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35					35			
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32					32			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	16465	16465	16465	16465	16465
5°	21595	19958	16551	13883	13246
10°	23638	22844	16305	12134	11307
15°	21264	23139	15864	10955	10029
20°	17546	21400	15259	9935	9092
25°	14996	19092	14721	9190	8428
30°	13264	16673	13878	8612	7892
35°	12267	14769	13014	8206	7668
40°	11228	13326	12114	7859	7623
45°	9889	12164	11202	7617	7522
50°	8328	11214	10263	7413	7431
55°	7004	10318	9273	7161	7299
60°	6316	9326	8419	6947	7150
65°	5731	8196	7500	6613	7018
70°	5159	7081	6750	6120	6648
75°	4500	5993	5770	5555	6075
80°	3775	4693	4693	4826	5081
85°	2867	3374	3507	3771	3639

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 17859 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.3	4.8
10°-20°	231.4	13.3
20°-30°	303.4	17.4
30°-40°	320.7	18.4
40°-50°	297.8	17.1
50°-60°	238.3	13.7
60°-70°	163.0	9.4
70°-80°	84.1	4.8
80°-90°	20.0	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°	619.1	35.5
0°-40°	939.8	53.9
0°-60°	1475.9	84.7
0°-90°	1743.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1743.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	857	857	857	857	857	
5°	1119	1034	858	720	686	110
15°	1069	1163	797	550	504	293
25°	707	900	694	433	397	326
35°	523	629	555	350	327	326
45°	364	448	412	280	277	279
55°	209	308	277	214	218	191
65°	126	180	165	145	154	125
75°	61	81	78	75	82	65
85°	13	15	16	17	16	16
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°	856.6	856.6	856.6	856.6	856.6	856.6	856.6	856.6	856.6
1°	903.7	899.0	878.4	879.6	864.3	847.2	831.3	821.3	813.1
2°	956.7	947.3	914.9	899.0	864.3	827.8	794.8	786.0	774.8
3°	1020.9	998.5	953.8	916.1	863.1	810.1	764.8	748.9	747.1
4°	1072.7	1052.7	993.2	933.8	860.2	793.1	741.8	724.8	716.5
5°	1119.2	1106.3	1034.4	956.1	857.8	776.6	719.5	695.9	686.5
6°	1172.8	1146.3	1067.4	978.5	853.7	760.7	699.4	671.2	658.2
7°	1194.6	1178.1	1104.5	993.2	848.4	742.4	674.1	643.5	634.1
8°	1209.9	1203.4	1133.9	1017.4	846.0	725.3	651.7	632.9	621.7
9°	1216.4	1211.1	1155.1	1027.4	841.9	716.5	640.6	609.4	597.0
10°	1211.1	1213.4	1170.4	1042.7	835.4	698.3	621.7	594.6	579.3
11°	1198.7	1204.6	1178.7	1060.3	827.2	683.5	604.6	577.0	562.3
12°	1175.2	1188.1	1182.2	1072.7	819.5	670.6	592.9	566.4	553.4
13°	1138.6	1167.5	1179.9	1078.0	814.8	655.9	578.2	547.5	531.1
14°	1105.7	1135.7	1173.4	1089.8	806.6	639.4	564.6	534.0	519.9
15°	1068.6	1103.3	1162.8	1093.3	797.2	625.8	550.5	516.9	504.0
16°	1016.8	1063.3	1143.4	1097.4	786.0	610.5	537.5	505.7	488.7
17°	973.8	1023.8	1128.6	1099.8	780.1	598.8	526.3	488.7	477.5
18°	934.4	990.9	1102.1	1098.0	770.7	585.2	509.9	476.3	465.7
19°	903.1	949.1	1075.7	1093.9	757.7	572.3	497.5	467.5	455.1
20°	857.8	910.8	1046.2	1092.1	746.0	560.5	485.7	455.1	444.5
21°	820.1	874.3	1019.1	1086.2	737.7	549.3	476.9	443.3	433.9
22.5°	770.7	818.4	973.8	1075.1	719.5	530.5	457.5	432.1	419.2
23°	764.8	805.4	962.0	1071.5	714.2	526.3	451.0	425.7	415.1
24°	727.7	770.7	934.4	1060.3	700.6	513.4	440.4	418.0	405.7
25°	707.1	742.4	900.2	1049.7	694.1	501.6	433.3	408.0	397.4
26°	678.2	718.9	869.6	1034.4	680.0	491.0	422.1	399.2	389.2
27°	657.0	691.2	837.8	1023.3	663.5	479.8	413.3	390.3	378.0
28°	636.4	669.4	807.2	1005.0	651.7	467.5	406.8	382.7	370.9
29°	615.2	644.1	782.5	990.9	640.6	456.9	396.8	372.7	361.5
30°	597.6	624.1	751.2	972.0	625.3	444.5	388.0	365.6	355.6
32.5°	557.0	579.3	687.7	927.3	588.8	419.8	366.8	346.2	340.3
35°	522.8	537.5	629.4	877.2	554.6	393.3	349.7	329.7	326.8
37.5°	486.9	501.0	576.4	824.8	518.7	369.1	330.3	317.3	315.0
40°	447.5	466.3	531.1	773.0	482.8	345.6	313.2	303.2	303.8
42.5°	408.0	429.8	486.9	712.4	449.2	323.2	296.7	289.7	290.8
45°	363.8	391.5	447.5	657.0	412.1	302.0	280.2	276.7	276.7
47.5°	317.9	353.3	413.3	599.9	376.8	280.8	264.4	262.0	263.2
50°	278.5	310.3	375.0	544.6	343.2	261.4	247.9	247.3	248.5
52.5°	239.6	271.4	341.5	492.8	309.1	243.7	232.0	232.0	233.1
55°	209.0	233.7	307.9	438.6	276.7	223.1	213.7	215.5	217.8
57.5°	187.8	204.3	274.9	386.8	246.7	203.1	197.2	198.4	201.4
60°	164.3	177.2	242.6	339.1	219.0	183.7	180.7	183.1	186.0
62.5°	143.1	154.3	212.0	296.1	189.0	164.9	163.7	167.2	170.1
65°	126.0	133.6	180.2	252.6	164.9	146.0	145.4	150.7	154.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	108.3	114.2	152.5	211.4	140.7	127.2	127.2	133.1	136.0
70°	91.8	96.6	126.0	174.3	120.1	108.3	108.9	116.0	118.3
72.5°	74.8	78.9	102.4	140.1	97.1	90.7	92.4	98.3	100.7
75°	60.6	63.6	80.7	110.7	77.7	72.4	74.8	80.1	81.8
77.5°	46.5	48.9	59.5	81.2	59.5	56.5	58.9	63.6	63.6
80°	34.1	34.7	42.4	57.1	42.4	40.6	43.6	45.9	45.9
82.5°	22.4	23.6	27.7	36.5	28.3	27.7	28.8	30.6	30.6
85°	13.0	13.5	15.3	20.0	15.9	15.9	17.1	17.1	16.5
87.5°	5.3	5.9	6.5	7.7	7.1	7.7	7.7	6.5	7.1
90°	0.0	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	18.95	20.47	19.32	20.79	21.10	18.53	20.05	18.89	20.36	20.68
	3H	20.15	21.52	20.53	21.85	22.21	20.04	21.41	20.42	21.73	22.10
	4H	20.55	21.83	20.95	22.18	22.56	20.57	21.85	20.97	22.20	22.58
	6H	20.80	21.99	21.21	22.35	22.75	20.92	22.10	21.33	22.47	22.86
	8H	20.87	21.99	21.29	22.38	22.78	21.02	22.14	21.44	22.53	22.93
	12H	20.90	21.98	21.33	22.36	22.79	21.07	22.15	21.50	22.53	22.96
4H	2H	20.01	21.29	20.41	21.64	22.02	19.60	20.88	20.00	21.23	21.61
	3H	21.37	22.44	21.78	22.83	23.24	21.22	22.29	21.63	22.69	23.09
	4H	21.83	22.79	22.26	23.21	23.64	21.80	22.76	22.24	23.18	23.62
	6H	22.14	22.98	22.60	23.42	23.88	22.23	23.06	22.68	23.50	23.96
	8H	22.22	23.00	22.69	23.45	23.91	22.34	23.12	22.81	23.57	24.03
	12H	22.27	22.97	22.75	23.45	23.92	22.42	23.11	22.90	23.59	24.06
8H	4H	22.19	22.97	22.65	23.41	23.88	22.15	22.93	22.61	23.37	23.84
	6H	22.59	23.23	23.09	23.72	24.20	22.67	23.31	23.16	23.80	24.28
	8H	22.71	23.29	23.23	23.80	24.29	22.83	23.41	23.35	23.92	24.41
	12H	22.80	23.31	23.31	23.80	24.37	22.96	23.47	23.47	23.96	24.52
12H	4H	22.21	22.91	22.69	23.39	23.86	22.16	22.86	22.64	23.34	23.81
	6H	22.64	23.21	23.15	23.72	24.21	22.71	23.28	23.22	23.79	24.28
	8H	22.80	23.31	23.31	23.81	24.37	22.92	23.43	23.43	23.93	24.49