

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: P242676

Luminaire Tested: S124DRP-S1195D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242676
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S1195D835-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

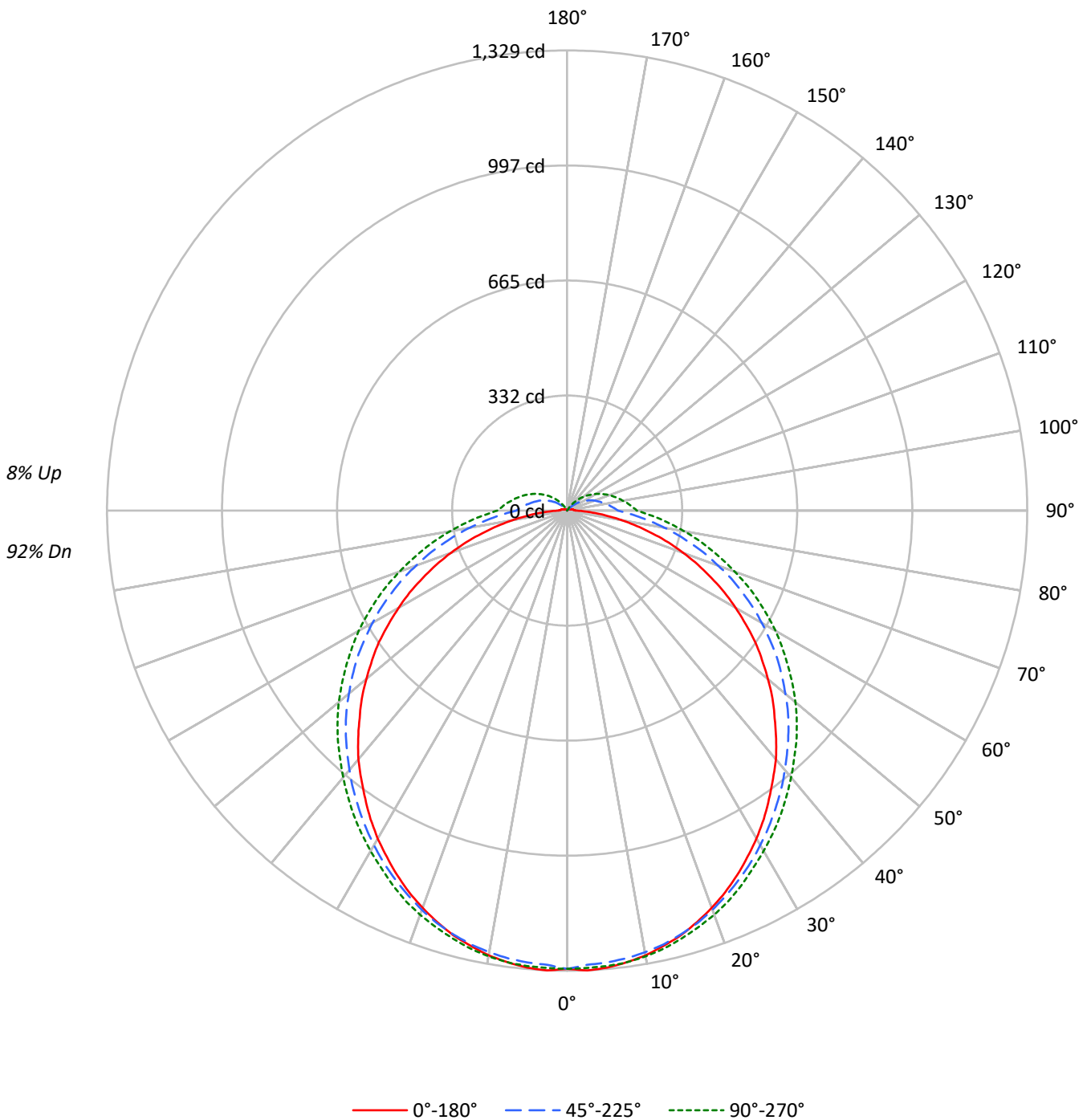
Lumens per Lamp: N/A
Luminaire Lumens: 4512.3 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 41.1
Input Voltage (V): 120
Input Current (Ain): 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										
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92																				
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74																				
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60																				
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50																				
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	49	45	43																				
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37																				
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	32																				
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28																				
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25																				
9	54	40	32	26	52	39	31	26	38	30	25	36	29	25	34	29	24	22																				
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11764	11764	11764
5°	11801	11486	11514
10°	11727	11286	11269
15°	11621	11058	10985
20°	11462	10807	10709
25°	11283	10527	10408
30°	11089	10249	10098
35°	10869	9965	9825
40°	10694	9693	9542
45°	10432	9441	9296
50°	10211	9153	9036
55°	9984	8878	8733
60°	9627	8529	8453
65°	9237	8157	8112
70°	8766	7729	7714
75°	8104	7257	7347
80°	7368	6792	6977
85°	6435	6357	6722

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10432 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.4	2.8
10°-20°	359.3	8.0
20°-30°	543.3	12.0
30°-40°	657.3	14.6
40°-50°	694.8	15.4
50°-60°	653.9	14.5
60°-70°	542.6	12.0
70°-80°	380.8	8.4
80°-90°	214.7	4.8
90°-100°	127.8	2.8
100°-110°	94.6	2.1
110°-120°	63.5	1.4
120°-130°	35.8	0.8
130°-140°	15.5	0.3
140°-150°	3.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1028.0	22.8
0°-40°	1685.2	37.3
0°-60°	3034.0	67.2
0°-90°	4172.1	92.5
90°-120°	286.0	6.3
90°-150°	340.3	7.5
90°-180°	340.0	7.5
0°-180°	4512.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1324	1324	1324	1324	1324	
5°	1325	1320	1310	1322	1320	126
15°	1270	1272	1267	1280	1279	358
25°	1162	1171	1175	1192	1193	535
35°	1017	1034	1049	1070	1074	637
45°	848	876	904	929	937	655
55°	664	695	740	769	778	592
65°	459	507	557	594	606	455
75°	255	310	372	414	427	271
85°	79	141	208	252	267	82
90°	24	83	147	190	202	16
95°	19	68	129	169	182	15
105°	13	43	98	135	147	15
115°	9	22	70	102	113	9
125°	6	4	42	70	79	6
135°	3	3	13	37	46	3
145°	2	0	0	9	15	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1323.5	1323.5	1323.5	1323.5	1323.5
2.5°	1329.4	1325.0	1313.1	1323.5	1322.0
5°	1325.0	1320.5	1310.2	1322.0	1320.5
7.5°	1316.1	1313.1	1304.2	1317.6	1316.1
10°	1304.2	1302.7	1295.3	1308.7	1307.2
12.5°	1287.9	1287.9	1283.5	1295.3	1295.3
15°	1270.1	1271.6	1267.2	1280.5	1279.0
17.5°	1246.4	1250.9	1249.4	1262.7	1261.2
20°	1221.2	1225.7	1227.2	1242.0	1242.0
22.5°	1193.1	1199.0	1202.0	1216.8	1219.7
25°	1161.9	1170.8	1175.3	1191.6	1193.1
27.5°	1127.9	1141.2	1147.1	1161.9	1163.4
30°	1093.8	1105.6	1116.0	1132.3	1135.3
32.5°	1056.7	1071.5	1083.4	1102.7	1105.6
35°	1016.7	1034.5	1049.3	1070.1	1074.5
37.5°	976.7	997.4	1015.2	1036.0	1040.4
40°	938.2	957.4	978.2	1000.4	1006.3
42.5°	893.7	915.9	941.1	966.3	970.8
45°	847.7	875.9	904.1	929.3	936.7
47.5°	804.8	832.9	865.5	890.7	899.6
50°	757.3	789.9	822.6	852.2	861.1
52.5°	709.9	742.5	781.1	810.7	819.6
55°	664.0	695.1	739.6	769.2	778.1
57.5°	612.1	650.6	693.6	729.2	736.6
60°	561.7	600.2	649.1	683.2	695.1
62.5°	512.8	555.8	604.7	638.8	650.6
65°	459.4	506.9	557.3	594.3	606.2
67.5°	409.1	459.4	512.8	549.9	561.7
70°	357.2	407.6	463.9	503.9	514.3
72.5°	306.8	358.7	419.4	458.0	469.8
75°	254.9	309.8	372.0	413.5	426.8
77.5°	206.0	263.8	329.0	370.5	385.3
80°	161.5	220.8	286.0	330.5	342.4
82.5°	117.1	179.3	244.5	290.5	303.8
85°	78.6	140.8	207.5	252.0	266.8
87.5°	48.9	109.7	174.9	217.9	231.2
90°	23.7	83.0	146.7	189.7	201.6
92.5°	22.2	74.1	137.8	179.3	191.2
95°	19.3	68.2	128.9	169.0	182.3
97.5°	17.8	60.8	121.5	160.1	173.4
100°	16.3	54.8	112.6	152.7	163.0
102.5°	16.3	48.9	105.2	143.8	155.6
105°	13.3	43.0	97.8	134.9	146.7
107.5°	13.3	38.5	90.4	127.5	137.8
110°	11.9	32.6	84.5	118.6	130.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	10.4	28.2	77.1	109.7	121.5
115°	8.9	22.2	69.7	102.3	112.6
117.5°	8.9	17.8	62.2	93.4	105.2
120°	7.4	11.9	54.8	84.5	96.3
122.5°	7.4	7.4	47.4	77.1	87.4
125°	5.9	4.4	41.5	69.7	78.6
127.5°	5.9	4.4	34.1	60.8	71.1
130°	4.4	3.0	26.7	53.4	62.2
132.5°	4.4	3.0	20.7	45.9	54.8
135°	3.0	3.0	13.3	37.1	45.9
137.5°	3.0	1.5	7.4	29.6	37.1
140°	3.0	1.5	3.0	22.2	29.6
142.5°	1.5	1.5	0.0	16.3	22.2
145°	1.5	0.0	0.0	8.9	14.8
147.5°	1.5	0.0	0.0	1.5	7.4
150°	1.5	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	18.36	19.88	18.83	20.35	20.84	19.91	21.43	20.39	21.90	22.40
	3H	20.00	21.38	20.49	21.86	22.40	22.21	23.60	22.70	24.08	24.62
	4H	20.56	21.88	21.07	22.37	22.92	23.27	24.59	23.78	25.08	25.64
	6H	20.94	22.17	21.47	22.68	23.24	24.33	25.55	24.85	26.06	26.63
	8H	21.05	22.22	21.59	22.75	23.33	24.85	26.02	25.38	26.55	27.12
	12H	21.11	22.24	21.65	22.76	23.36	25.40	26.53	25.94	27.05	27.65
4H	2H	19.20	20.52	19.71	21.01	21.56	20.41	21.72	20.92	22.22	22.77
	3H	21.08	22.20	21.61	22.74	23.31	22.94	24.06	23.46	24.59	25.17
	4H	21.79	22.81	22.33	23.36	23.96	24.15	25.18	24.70	25.72	26.33
	6H	22.31	23.21	22.87	23.78	24.40	25.38	26.29	25.95	26.86	27.48
	8H	22.46	23.31	23.03	23.88	24.51	26.00	26.85	26.57	27.42	28.05
	12H	22.56	23.33	23.15	23.93	24.57	26.66	27.43	27.25	28.03	28.66
8H	4H	22.37	23.22	22.94	23.79	24.42	24.41	25.26	24.98	25.83	26.46
	6H	23.06	23.78	23.66	24.39	25.03	25.80	26.52	26.40	27.13	27.77
	8H	23.31	23.96	23.93	24.58	25.24	26.54	27.19	27.16	27.81	28.46
	12H	23.50	24.08	24.12	24.69	25.41	27.37	27.94	27.98	28.56	29.27
12H	4H	22.50	23.27	23.09	23.87	24.51	24.43	25.20	25.02	25.80	26.43
	6H	23.27	23.92	23.89	24.55	25.20	25.85	26.50	26.46	27.12	27.77
	8H	23.61	24.19	24.23	24.80	25.52	26.66	27.24	27.27	27.85	28.57