

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: P243556

Luminaire Tested: S124DRP-H1195D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243556
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H1195D940-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

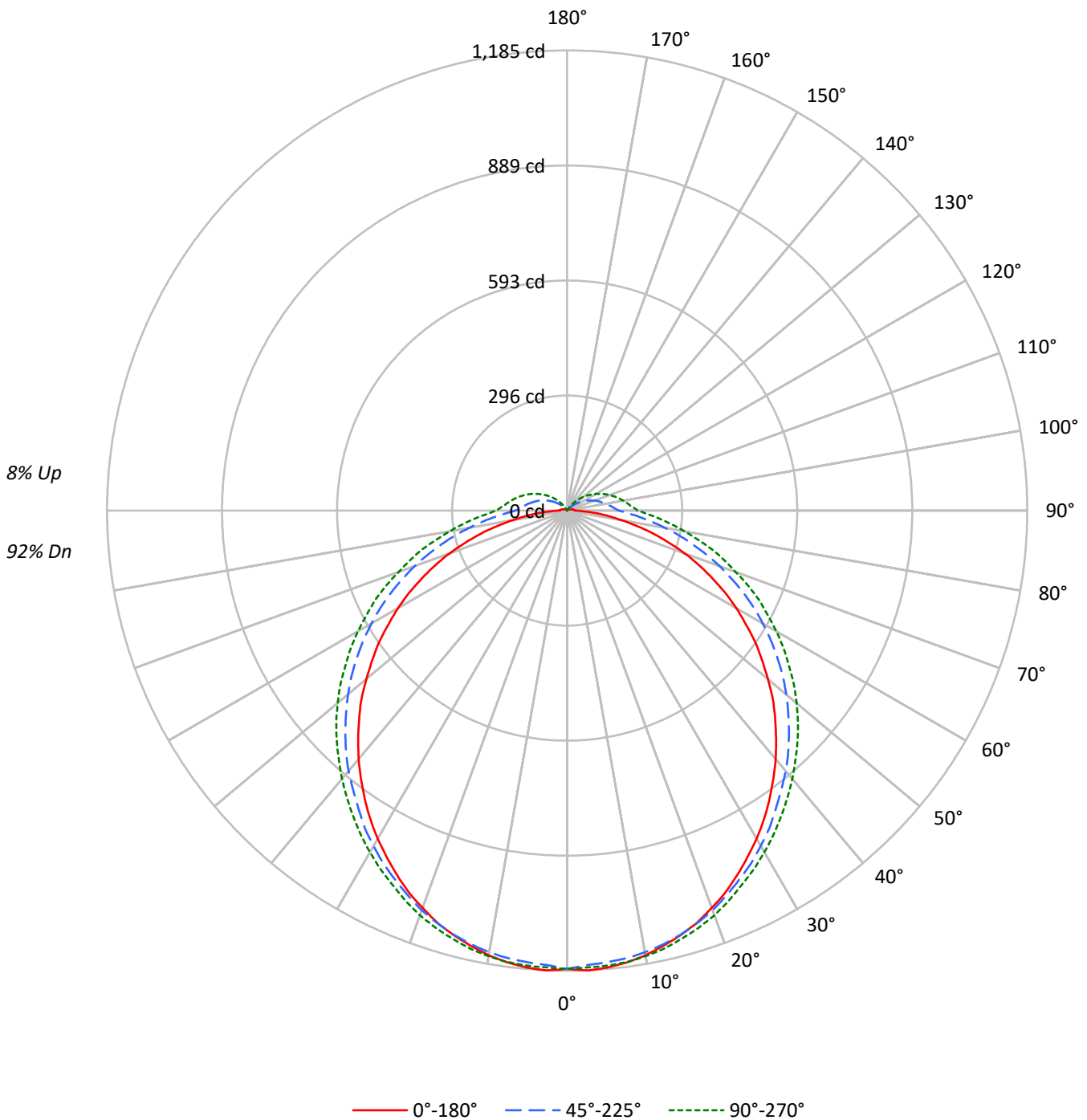
Lumens per Lamp: N/A
Luminaire Lumens: 4034.6 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 37.7
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			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	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	86	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	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	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	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10492	10492	10492
5°	10523	10237	10258
10°	10455	10065	10045
15°	10352	9861	9803
20°	10218	9643	9561
25°	10060	9392	9278
30°	9893	9158	9037
35°	9708	8898	8786
40°	9522	8676	8551
45°	9323	8436	8328
50°	9098	8193	8095
55°	8901	7935	7827
60°	8621	7648	7565
65°	8298	7326	7301
70°	7912	6960	6924
75°	7296	6508	6650
80°	6465	6077	6261
85°	5853	5726	6037

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9323 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.8	2.8
10°-20°	320.4	7.9
20°-30°	485.0	12.0
30°-40°	587.3	14.6
40°-50°	621.2	15.4
50°-60°	585.2	14.5
60°-70°	486.3	12.1
70°-80°	341.8	8.5
80°-90°	192.5	4.8
90°-100°	114.3	2.8
100°-110°	84.6	2.1
110°-120°	56.4	1.4
120°-130°	31.8	0.8
130°-140°	13.6	0.3
140°-150°	2.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	917.1	22.7
0°-40°	1504.4	37.3
0°-60°	2710.7	67.2
0°-90°	3731.3	92.5
90°-120°	255.2	6.3
90°-150°	303.3	7.5
90°-180°	303.0	7.5
0°-180°	4034.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1180	1180	1180	1180	1180	
5°	1182	1176	1168	1178	1176	112
15°	1131	1134	1130	1143	1141	319
25°	1036	1045	1049	1064	1064	477
35°	908	923	937	957	961	568
45°	758	781	808	832	839	585
55°	592	623	661	690	697	528
65°	413	454	500	532	546	409
75°	230	278	334	371	386	243
85°	72	127	187	227	240	74
90°	21	74	133	169	182	14
95°	18	60	115	152	162	14
105°	12	39	88	120	132	13
115°	9	20	62	90	102	8
125°	5	4	36	62	70	5
135°	2	2	11	33	40	2
145°	1	0	0	8	12	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°	1180.3	1180.3	1180.3	1180.3	1180.3
2.5°	1185.3	1181.5	1171.5	1179.0	1177.8
5°	1181.5	1176.5	1167.7	1177.8	1176.5
7.5°	1174.0	1170.3	1162.7	1174.0	1172.8
10°	1162.7	1160.2	1155.2	1165.2	1165.2
12.5°	1147.7	1147.7	1143.9	1155.2	1155.2
15°	1131.4	1133.9	1130.1	1142.7	1141.4
17.5°	1112.6	1115.1	1113.8	1126.4	1126.4
20°	1088.7	1092.5	1095.0	1108.8	1108.8
22.5°	1064.9	1069.9	1072.4	1087.5	1087.5
25°	1036.0	1044.8	1048.6	1063.6	1063.6
27.5°	1005.9	1017.2	1024.8	1038.6	1041.1
30°	975.8	988.4	997.2	1012.2	1016.0
32.5°	943.2	955.8	969.6	984.6	989.6
35°	908.1	923.2	937.0	957.0	960.8
37.5°	871.7	889.3	905.6	926.9	931.9
40°	835.4	856.7	875.5	895.6	901.8
42.5°	796.5	817.8	842.9	864.2	870.5
45°	757.6	781.4	807.8	831.6	839.1
47.5°	718.7	743.8	772.6	797.7	806.5
50°	674.8	702.4	736.3	761.4	771.4
52.5°	632.2	662.3	699.9	725.0	736.3
55°	592.0	623.4	661.0	689.9	697.4
57.5°	545.6	580.7	622.1	653.5	661.0
60°	503.0	538.1	582.0	613.4	622.1
62.5°	459.1	496.7	541.9	573.2	582.0
65°	412.7	454.1	500.5	531.8	545.6
67.5°	367.5	408.9	457.8	492.9	504.2
70°	322.4	365.0	417.7	452.8	461.6
72.5°	274.7	321.1	375.0	411.4	424.0
75°	229.5	278.5	333.6	371.3	386.3
77.5°	185.6	237.1	294.8	333.6	343.7
80°	141.7	198.2	255.9	294.8	307.3
82.5°	106.6	159.3	219.5	260.9	270.9
85°	71.5	126.7	186.9	227.0	239.6
87.5°	42.6	99.1	156.8	194.4	207.0
90°	21.3	74.0	133.0	169.3	181.9
92.5°	18.8	66.5	122.9	159.3	171.8
95°	17.6	60.2	115.4	151.8	161.8
97.5°	16.3	55.2	107.9	143.0	154.3
100°	15.1	48.9	101.6	135.5	146.8
102.5°	13.8	43.9	94.1	127.9	139.2
105°	12.5	38.9	87.8	120.4	131.7
107.5°	11.3	33.9	81.5	112.9	124.2
110°	10.0	28.8	75.3	105.4	116.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	8.8	25.1	67.7	97.8	109.1
115°	8.8	20.1	61.5	90.3	101.6
117.5°	7.5	15.1	55.2	82.8	92.8
120°	7.5	11.3	48.9	75.3	85.3
122.5°	6.3	7.5	42.6	69.0	77.8
125°	5.0	3.8	36.4	61.5	70.2
127.5°	5.0	3.8	30.1	53.9	62.7
130°	3.8	3.8	23.8	46.4	55.2
132.5°	3.8	2.5	17.6	40.1	47.7
135°	2.5	2.5	11.3	32.6	40.1
137.5°	2.5	1.3	7.5	26.3	33.9
140°	2.5	1.3	2.5	20.1	26.3
142.5°	1.3	1.3	0.0	13.8	18.8
145°	1.3	0.0	0.0	7.5	12.5
147.5°	1.3	0.0	0.0	1.3	6.3
150°	0.0	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	17.96	19.48	18.43	19.95	20.44	19.54	21.06	20.01	21.53	22.03
	3H	19.60	21.00	20.09	21.47	22.01	21.85	23.24	22.34	23.71	24.25
	4H	20.18	21.49	20.69	21.99	22.54	22.92	24.24	23.43	24.73	25.28
	6H	20.56	21.79	21.08	22.29	22.86	23.97	25.19	24.49	25.70	26.26
	8H	20.67	21.84	21.20	22.37	22.94	24.48	25.65	25.02	26.18	26.76
	12H	20.73	21.86	21.27	22.38	22.98	25.03	26.16	25.57	26.68	27.28
4H	2H	18.81	20.13	19.32	20.62	21.17	20.04	21.36	20.55	21.85	22.40
	3H	20.70	21.82	21.22	22.36	22.93	22.57	23.69	23.09	24.23	24.80
	4H	21.41	22.44	21.95	22.98	23.59	23.80	24.82	24.34	25.37	25.97
	6H	21.93	22.83	22.49	23.40	24.02	25.02	25.92	25.58	26.50	27.12
	8H	22.08	22.93	22.65	23.51	24.14	25.63	26.48	26.20	27.05	27.68
	12H	22.19	22.96	22.78	23.56	24.20	26.29	27.06	26.88	27.66	28.30
8H	4H	21.99	22.84	22.56	23.41	24.05	24.05	24.90	24.62	25.47	26.10
	6H	22.69	23.40	23.29	24.02	24.66	25.44	26.15	26.04	26.77	27.41
	8H	22.94	23.58	23.55	24.21	24.86	26.17	26.82	26.79	27.45	28.10
	12H	23.13	23.70	23.74	24.32	25.03	27.00	27.58	27.62	28.19	28.91
12H	4H	22.13	22.90	22.72	23.50	24.14	24.07	24.84	24.66	25.44	26.08
	6H	22.90	23.55	23.51	24.17	24.82	25.49	26.13	26.10	26.76	27.41
	8H	23.24	23.81	23.85	24.43	25.14	26.29	26.87	26.91	27.48	28.20