

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: P243462

Luminaire Tested: S124DRP-H1020D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243462
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H1020D830-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

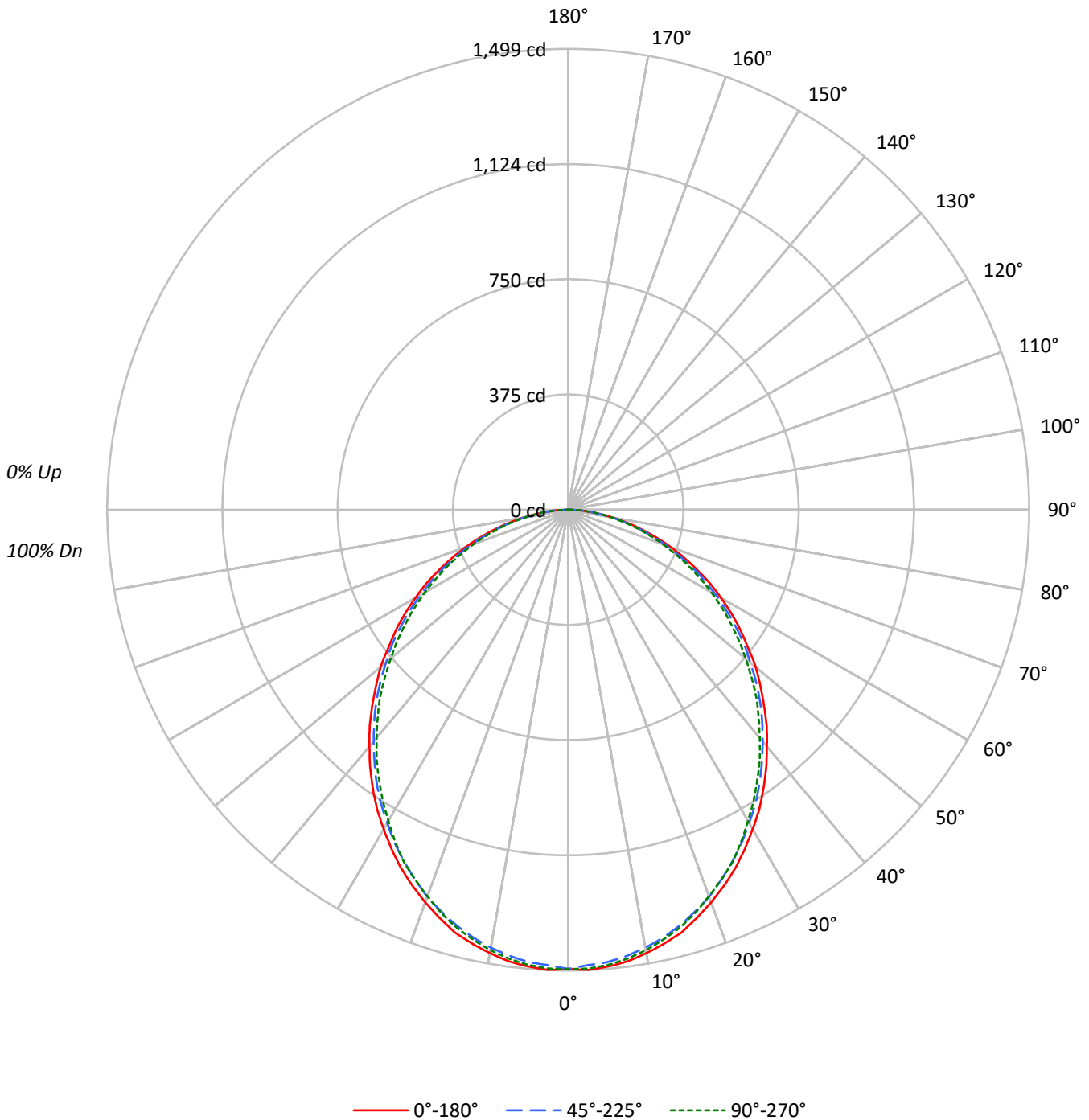
Lumens per Lamp: N/A
Luminaire Lumens: 3845.8 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 31.5
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					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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70					70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60					60			
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51					51			
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44					44			
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	52	46	41	39					39			
7	66	52	44	38	64	51	43	37	50	43	37	48	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28					28			
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13279	13279	13279
5°	13308	13178	13265
10°	13220	13056	13133
15°	13099	12886	12942
20°	12855	12671	12659
25°	12613	12386	12399
30°	12314	12077	12002
35°	12016	11779	11634
40°	11664	11411	11242
45°	11323	11094	10880
50°	11010	10691	10421
55°	10605	10323	10002
60°	10199	9854	9552
65°	9715	9383	9076
70°	9192	8782	8499
75°	8476	8140	7889
80°	7469	7341	7156
85°	6568	6568	6446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11323 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.9	3.7
10°-20°	397.1	10.3
20°-30°	584.8	15.2
30°-40°	680.4	17.7
40°-50°	680.7	17.7
50°-60°	595.3	15.5
60°-70°	442.1	11.5
70°-80°	251.9	6.6
80°-90°	72.6	1.9
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°	1122.7	29.2
0°-40°	1803.1	46.9
0°-60°	3079.1	80.1
0°-90°	3845.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3845.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1494	1494	1494	1494	1494	
5°	1492	1489	1477	1488	1487	142
15°	1423	1416	1400	1409	1406	400
25°	1286	1280	1263	1267	1264	592
35°	1107	1098	1086	1076	1072	692
45°	901	897	882	869	866	696
55°	684	680	666	652	645	612
65°	462	458	446	436	432	458
75°	247	242	237	232	230	262
85°	64	63	64	62	63	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1493.9	1493.9	1493.9	1493.9	1493.9
2.5°	1498.7	1495.1	1482.9	1495.1	1493.9
5°	1491.5	1489.0	1476.9	1487.8	1486.6
7.5°	1481.7	1476.9	1463.5	1474.4	1473.2
10°	1464.7	1461.1	1446.5	1457.4	1455.0
12.5°	1445.3	1441.6	1425.8	1434.3	1431.9
15°	1423.4	1416.1	1400.3	1408.8	1406.4
17.5°	1391.8	1386.9	1371.1	1378.4	1374.8
20°	1359.0	1352.9	1339.5	1340.7	1338.3
22.5°	1323.7	1317.6	1301.8	1306.7	1301.8
25°	1286.0	1280.0	1262.9	1266.6	1264.2
27.5°	1243.5	1237.4	1221.6	1222.8	1218.0
30°	1199.7	1192.4	1176.6	1175.4	1169.3
32.5°	1156.0	1148.7	1132.9	1128.0	1121.9
35°	1107.3	1097.6	1085.5	1075.7	1072.1
37.5°	1057.5	1052.6	1034.4	1028.3	1023.5
40°	1005.2	1000.4	983.4	974.9	968.8
42.5°	955.4	949.3	933.5	921.4	916.5
45°	900.7	897.1	882.5	869.1	865.5
47.5°	847.2	846.0	827.8	814.4	808.3
50°	796.2	788.9	773.1	760.9	753.6
52.5°	736.6	735.4	722.0	706.2	700.1
55°	684.3	679.5	666.1	651.5	645.4
57.5°	629.6	627.2	610.2	598.0	592.0
60°	573.7	568.9	554.3	543.3	537.3
62.5°	520.2	514.2	500.8	489.9	483.8
65°	461.9	458.3	446.1	436.4	431.5
67.5°	407.2	402.3	390.2	381.7	376.8
70°	353.7	346.4	337.9	330.6	327.0
72.5°	300.2	294.2	286.9	282.0	277.1
75°	246.8	241.9	237.0	232.2	229.7
77.5°	195.7	190.8	188.4	187.2	184.8
80°	145.9	143.4	143.4	142.2	139.8
82.5°	103.3	100.9	100.9	100.9	99.7
85°	64.4	63.2	64.4	62.0	63.2
87.5°	30.4	30.4	31.6	30.4	31.6
90°	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	20.28	21.90	20.65	22.21	22.53	19.94	21.55	20.30	21.86	22.18
	3H	22.04	23.49	22.41	23.82	24.18	21.65	23.11	22.02	23.43	23.79
	4H	22.69	24.07	23.09	24.41	24.79	22.30	23.67	22.69	24.02	24.39
	6H	23.17	24.44	23.58	24.81	25.20	22.78	24.06	23.20	24.42	24.81
	8H	23.32	24.54	23.74	24.92	25.32	22.95	24.16	23.37	24.55	24.95
	12H	23.43	24.59	23.85	24.97	25.40	23.06	24.22	23.49	24.61	25.03
4H	2H	20.86	22.23	21.25	22.58	22.95	20.58	21.95	20.98	22.30	22.68
	3H	22.83	23.98	23.24	24.38	24.78	22.51	23.66	22.92	24.06	24.46
	4H	23.62	24.66	24.05	25.07	25.51	23.29	24.33	23.72	24.74	25.18
	6H	24.22	25.13	24.67	25.57	26.02	23.90	24.81	24.36	25.25	25.71
	8H	24.42	25.27	24.88	25.71	26.18	24.11	24.97	24.57	25.41	25.87
	12H	24.57	25.33	25.05	25.81	26.28	24.27	25.04	24.75	25.51	25.98
8H	4H	23.90	24.75	24.36	25.19	25.66	23.61	24.46	24.07	24.90	25.37
	6H	24.62	25.33	25.11	25.81	26.29	24.35	25.06	24.84	25.55	26.02
	8H	24.89	25.53	25.40	26.03	26.52	24.63	25.27	25.14	25.78	26.26
	12H	25.12	25.68	25.62	26.17	26.73	24.87	25.43	25.38	25.92	26.48
12H	4H	23.93	24.69	24.41	25.17	25.64	23.64	24.41	24.12	24.88	25.35
	6H	24.67	25.31	25.18	25.81	26.30	24.41	25.05	24.92	25.55	26.04
	8H	25.00	25.56	25.50	26.05	26.61	24.75	25.32	25.26	25.81	26.37