

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: P243569

Luminaire Tested: S124RDRP-H1020D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243569
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-H1020D835-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

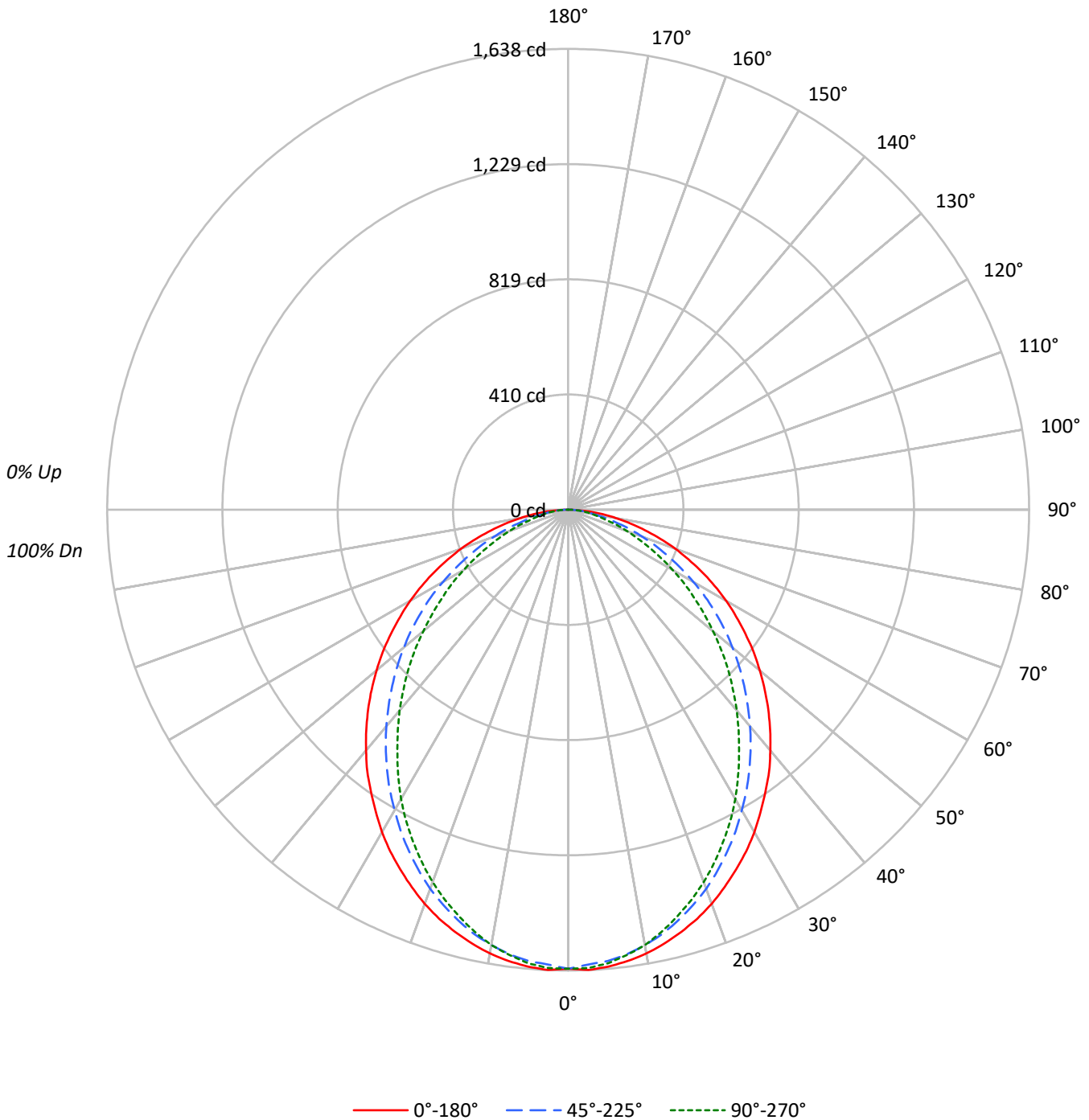
Lumens per Lamp: N/A
Luminaire Lumens: 3847.3 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

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	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14503	14503	14503
5°	14547	14365	14440
10°	14455	14183	14183
15°	14294	13906	13773
20°	14101	13566	13326
25°	13841	13133	12778
30°	13582	12656	12185
35°	13263	12190	11485
40°	12966	11666	10815
45°	12639	11110	10111
50°	12288	10540	9291
55°	11905	9890	8472
60°	11538	9141	7621
65°	11042	8255	6661
70°	10515	7293	5790
75°	9719	6079	4715
80°	8876	4745	4315
85°	7863	4549	4294

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12639 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	4.0
10°-20°	428.5	11.1
20°-30°	621.4	16.2
30°-40°	708.2	18.4
40°-50°	689.1	17.9
50°-60°	578.9	15.0
60°-70°	403.3	10.5
70°-80°	208.3	5.4
80°-90°	56.3	1.5
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°	1203.3	31.3
0°-40°	1911.6	49.7
0°-60°	3179.5	82.6
0°-90°	3847.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3847.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1632	1632	1632	1632	1632	
5°	1630	1626	1610	1622	1618	155
15°	1553	1541	1511	1509	1497	438
25°	1411	1385	1339	1320	1303	650
35°	1222	1185	1123	1081	1058	765
45°	1005	957	884	827	804	776
55°	768	719	638	573	547	688
65°	525	474	392	336	317	520
75°	283	240	177	148	137	301
85°	77	49	45	42	42	88
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1631.6	1631.6	1631.6	1631.6	1631.6
2.5°	1637.6	1632.8	1618.3	1631.6	1630.3
5°	1630.3	1625.5	1609.9	1621.9	1618.3
7.5°	1618.3	1612.3	1594.2	1602.7	1596.6
10°	1601.5	1595.4	1571.3	1577.4	1571.3
12.5°	1579.8	1571.3	1544.9	1546.1	1536.4
15°	1553.3	1541.2	1511.1	1508.7	1496.7
17.5°	1524.4	1508.7	1473.8	1467.8	1454.6
20°	1490.7	1471.4	1434.1	1420.8	1408.8
22.5°	1452.1	1429.3	1388.3	1372.7	1357.0
25°	1411.2	1384.7	1339.0	1319.7	1302.8
27.5°	1369.1	1337.8	1288.4	1264.3	1247.4
30°	1323.3	1287.2	1233.0	1205.3	1187.2
32.5°	1272.7	1236.6	1180.0	1146.3	1123.4
35°	1222.2	1184.8	1123.4	1081.3	1058.4
37.5°	1172.8	1130.6	1064.4	1021.1	994.6
40°	1117.4	1072.9	1005.4	956.1	932.0
42.5°	1062.0	1016.3	944.0	892.2	865.7
45°	1005.4	957.3	883.8	827.2	804.3
47.5°	947.6	899.5	823.6	764.6	738.1
50°	888.6	840.5	762.2	697.2	671.9
52.5°	830.8	780.3	702.0	635.8	609.3
55°	768.2	718.8	638.2	573.2	546.7
57.5°	708.0	656.2	578.0	511.7	490.1
60°	649.0	597.2	514.2	450.3	428.7
62.5°	586.4	534.6	452.7	391.3	372.1
65°	525.0	474.4	392.5	335.9	316.7
67.5°	462.4	416.6	337.1	283.0	267.3
70°	404.6	352.8	280.6	233.6	222.8
72.5°	343.2	297.4	227.6	189.0	180.6
75°	283.0	239.6	177.0	148.1	137.3
77.5°	227.6	185.4	133.7	109.6	109.6
80°	173.4	136.1	92.7	86.7	84.3
82.5°	122.8	87.9	68.6	63.8	62.6
85°	77.1	49.4	44.6	42.1	42.1
87.5°	37.3	22.9	22.9	21.7	21.7
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	20.74	22.32	21.11	22.63	22.95	18.85	20.42	19.21	20.73	21.05
	3H	22.56	23.98	22.94	24.30	24.66	20.11	21.53	20.49	21.85	22.22
	4H	23.24	24.57	23.64	24.92	25.30	20.50	21.84	20.90	22.19	22.56
	6H	23.76	24.99	24.17	25.35	25.75	20.78	22.02	21.19	22.38	22.77
	8H	23.93	25.10	24.35	25.49	25.89	20.88	22.06	21.31	22.45	22.85
	12H	24.04	25.17	24.47	25.55	25.98	20.96	22.09	21.39	22.47	22.90
4H	2H	21.09	22.43	21.49	22.78	23.15	19.55	20.88	19.95	21.23	21.61
	3H	23.11	24.22	23.52	24.62	25.02	21.00	22.11	21.41	22.51	22.91
	4H	23.92	24.92	24.35	25.34	25.78	21.48	22.48	21.91	22.89	23.33
	6H	24.56	25.44	25.02	25.88	26.34	21.84	22.72	22.30	23.16	23.62
	8H	24.78	25.60	25.24	26.04	26.51	21.98	22.80	22.44	23.24	23.71
	12H	24.95	25.68	25.43	26.16	26.63	22.10	22.83	22.58	23.31	23.78
8H	4H	24.03	24.85	24.49	25.29	25.76	21.81	22.63	22.27	23.07	23.54
	6H	24.75	25.43	25.25	25.92	26.40	22.26	22.94	22.76	23.43	23.90
	8H	25.03	25.63	25.54	26.14	26.63	22.45	23.06	22.97	23.57	24.06
	12H	25.26	25.79	25.76	26.28	26.85	22.64	23.18	23.15	23.67	24.23
12H	4H	24.02	24.75	24.50	25.23	25.70	21.86	22.59	22.34	23.06	23.53
	6H	24.75	25.36	25.26	25.86	26.35	22.32	22.93	22.83	23.44	23.93
	8H	25.06	25.60	25.57	26.09	26.65	22.57	23.11	23.08	23.60	24.16