

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: P243310

Luminaire Tested: S123DRP-H1165D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243310
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1165D935-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

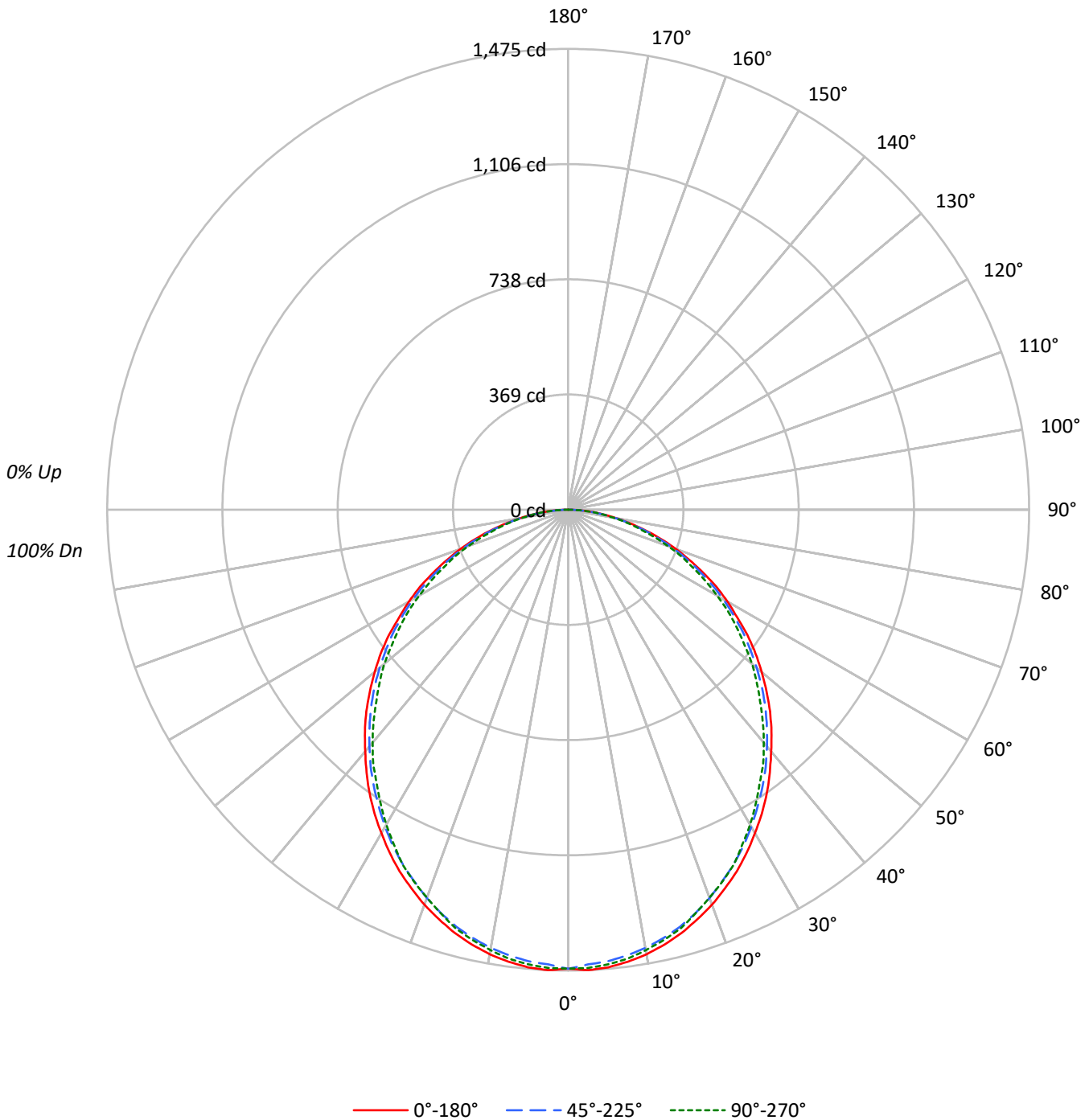
Lumens per Lamp: N/A
Luminaire Lumens: 3886.3 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 37.7
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17807	17807	17807
5°	17890	17654	17772
10°	17783	17531	17619
15°	17600	17341	17416
20°	17356	17059	17044
25°	17072	16749	16765
30°	16731	16408	16290
35°	16398	16039	15806
40°	15983	15657	15407
45°	15654	15280	14886
50°	15233	14844	14479
55°	14793	14408	13922
60°	14269	13886	13328
65°	13652	13234	12680
70°	12964	12532	12018
75°	12027	11685	11062
80°	10820	10568	10226
85°	10111	9596	9262

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15654 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	3.6
10°-20°	391.9	10.1
20°-30°	580.3	14.9
30°-40°	680.5	17.5
40°-50°	688.0	17.7
50°-60°	608.5	15.7
60°-70°	457.0	11.8
70°-80°	263.4	6.8
80°-90°	78.1	2.0
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°	1110.8	28.6
0°-40°	1791.3	46.1
0°-60°	3087.8	79.5
0°-90°	3886.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3886.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1469	1469	1469	1469	1469	
5°	1470	1464	1451	1463	1461	139
15°	1402	1395	1382	1392	1388	395
25°	1276	1267	1252	1258	1254	588
35°	1108	1098	1084	1080	1068	692
45°	913	906	891	879	868	704
55°	700	695	682	668	659	625
65°	476	472	461	449	442	472
75°	257	254	250	242	236	272
85°	73	72	69	68	67	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1469.1	1469.1	1469.1	1469.1	1469.1
2.5°	1475.1	1470.3	1457.0	1470.3	1467.9
5°	1470.3	1464.2	1450.9	1463.0	1460.6
7.5°	1459.4	1453.3	1438.8	1452.1	1449.7
10°	1444.8	1438.8	1424.3	1435.2	1431.5
12.5°	1425.5	1419.4	1404.9	1413.4	1410.9
15°	1402.5	1395.2	1381.9	1391.6	1387.9
17.5°	1374.6	1368.5	1354.0	1366.1	1355.2
20°	1345.5	1339.5	1322.5	1333.4	1321.3
22.5°	1311.6	1304.4	1287.4	1294.7	1288.6
25°	1276.5	1266.8	1252.3	1258.3	1253.5
27.5°	1237.7	1228.1	1213.5	1215.9	1207.5
30°	1195.4	1186.9	1172.3	1174.8	1163.9
32.5°	1153.0	1145.7	1127.5	1127.5	1116.6
35°	1108.2	1098.5	1083.9	1080.3	1068.2
37.5°	1059.7	1051.2	1037.9	1031.9	1024.6
40°	1010.1	1005.2	989.5	982.2	973.7
42.5°	962.8	954.3	941.0	931.3	921.6
45°	913.2	905.9	891.4	879.3	868.4
47.5°	861.1	855.0	840.5	827.2	818.7
50°	807.8	803.0	787.2	772.7	767.8
52.5°	755.7	749.7	733.9	720.6	710.9
55°	700.0	695.2	681.8	668.5	658.8
57.5°	640.7	640.7	626.1	614.0	606.8
60°	588.6	582.5	572.8	559.5	549.8
62.5°	534.1	530.5	517.1	503.8	496.6
65°	476.0	472.3	461.4	449.3	442.1
67.5°	419.0	417.8	408.1	398.5	393.6
70°	365.8	363.3	353.6	344.0	339.1
72.5°	311.3	308.8	300.4	291.9	285.8
75°	256.8	254.3	249.5	242.2	236.2
77.5°	203.5	203.5	197.4	195.0	192.6
80°	155.0	153.8	151.4	149.0	146.5
82.5°	111.4	110.2	107.8	106.6	106.6
85°	72.7	71.5	69.0	67.8	66.6
87.5°	37.5	35.1	33.9	31.5	30.3
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	21.46	23.08	21.82	23.40	23.71	21.14	22.77	21.51	23.08	23.40
	3H	23.25	24.72	23.63	25.05	25.41	22.90	24.37	23.28	24.70	25.06
	4H	23.93	25.32	24.33	25.66	26.04	23.55	24.93	23.95	25.28	25.66
	6H	24.43	25.71	24.84	26.08	26.47	24.05	25.33	24.46	25.70	26.09
	8H	24.60	25.82	25.02	26.21	26.61	24.22	25.45	24.65	25.84	26.23
	12H	24.72	25.89	25.15	26.28	26.70	24.34	25.52	24.77	25.90	26.33
4H	2H	22.05	23.43	22.44	23.78	24.15	21.80	23.19	22.20	23.53	23.91
	3H	24.07	25.23	24.48	25.63	26.03	23.78	24.94	24.18	25.33	25.73
	4H	24.88	25.93	25.31	26.35	26.78	24.55	25.61	24.99	26.02	26.45
	6H	25.51	26.43	25.97	26.87	27.33	25.18	26.10	25.64	26.54	27.00
	8H	25.73	26.59	26.19	27.03	27.50	25.40	26.27	25.86	26.71	27.17
	12H	25.90	26.68	26.38	27.15	27.62	25.57	26.35	26.05	26.82	27.29
8H	4H	25.18	26.04	25.64	26.48	26.94	24.89	25.75	25.35	26.19	26.66
	6H	25.93	26.65	26.42	27.13	27.61	25.64	26.36	26.14	26.85	27.32
	8H	26.23	26.87	26.74	27.38	27.86	25.94	26.59	26.45	27.09	27.58
	12H	26.49	27.05	26.99	27.54	28.10	26.19	26.76	26.70	27.25	27.81
12H	4H	25.21	25.98	25.69	26.46	26.93	24.93	25.70	25.41	26.18	26.65
	6H	25.99	26.63	26.49	27.14	27.62	25.71	26.35	26.22	26.86	27.35
	8H	26.34	26.91	26.85	27.40	27.96	26.07	26.64	26.58	27.13	27.69