

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P911278

Luminaire Tested: DFN2DIP-PN3F0-080D040US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911278
REPORT IS A COMBINATION OF REPORTS P899536 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-080D040US850-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

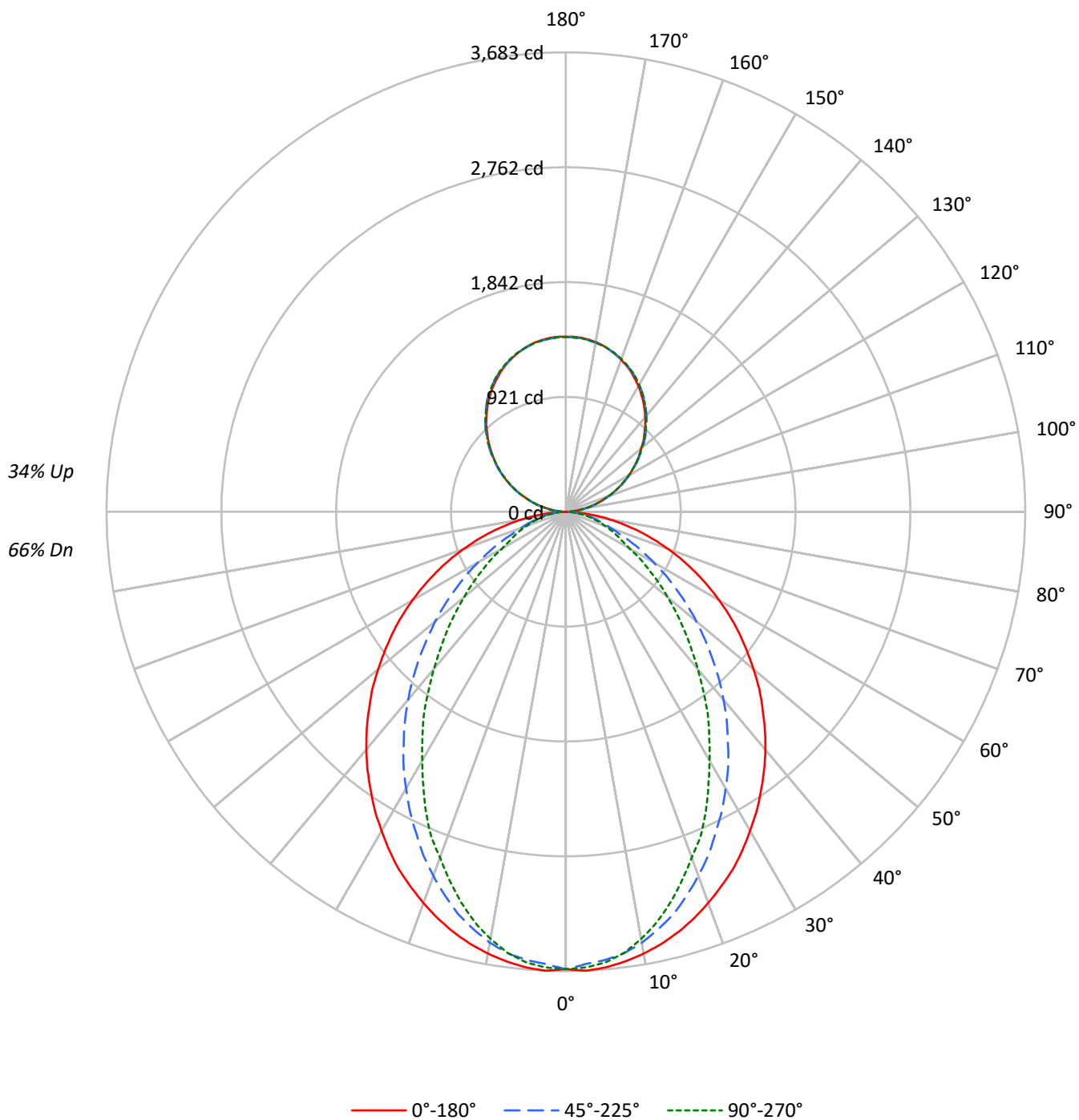
Lumens per Lamp: N/A
Luminaire Lumens: 11467.0 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 109.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																					
0	111	111	111	111		104	104	104	104		92	92	92		81	81	81		71	71	71
1	102	98	94	91		96	92	89	86		82	79	77		72	70	69		63	62	61
2	93	86	80	75		88	81	76	72		72	68	65		64	61	58		57	54	52
3	86	76	69	63		80	72	66	61		65	59	55		57	53	50		51	48	45
4	79	68	60	54		74	65	58	52		58	52	48		52	47	44		46	42	40
5	73	61	53	47		68	58	51	45		52	46	42		47	42	38		42	38	35
6	67	55	47	41		63	52	45	40		47	41	37		42	38	34		38	34	31
7	62	50	42	37		59	48	40	35		43	37	33		39	34	30		35	31	28
8	58	46	38	33		55	44	37	32		40	34	29		36	31	27		32	28	25
9	54	42	35	29		51	40	33	29		36	31	27		33	28	25		30	26	23
10	51	39	31	27		48	37	30	26		34	28	24		31	26	23		28	24	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4286	4286	4286
5°	4291	4215	4244
10°	4246	4130	4104
15°	4185	3990	3889
20°	4105	3799	3625
25°	4023	3586	3371
30°	3914	3367	3049
35°	3807	3132	2766
40°	3698	2890	2442
45°	3572	2621	2149
50°	3441	2350	1862
55°	3304	2061	1587
60°	3145	1759	1305
65°	2963	1452	1172
70°	2741	1166	1058
75°	2462	1021	959
80°	2058	847	825
85°	1399	551	610

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3572 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	343.7	3.0
10°-20°	943.4	8.2
20°-30°	1324.5	11.6
30°-40°	1443.8	12.6
40°-50°	1327.0	11.6
50°-60°	1042.1	9.1
60°-70°	678.3	5.9
70°-80°	349.2	3.0
80°-90°	93.1	0.8
90°-100°	86.8	0.8
100°-110°	275.8	2.4
110°-120°	472.0	4.1
120°-130°	620.8	5.4
130°-140°	696.8	6.1
140°-150°	683.3	6.0
150°-160°	573.2	5.0
160°-170°	380.1	3.3
170°-180°	132.9	1.2
0°-30°	2611.6	22.8
0°-40°	4055.4	35.4
0°-60°	6424.5	56.0
0°-90°	7545.2	65.8
90°-120°	834.7	7.3
90°-150°	2835.6	24.7
90°-180°	3922.0	34.2
0°-180°	11467.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3667	3667	3667	3667	3667	
5°	3667	3650	3607	3637	3627	348
15°	3488	3451	3338	3275	3242	983
25°	3166	3060	2840	2705	2655	1456
35°	2728	2558	2267	2058	1984	1707
45°	2230	2008	1659	1423	1344	1722
55°	1696	1437	1078	879	816	1515
65°	1145	876	577	465	454	1135
75°	610	378	266	242	239	646
85°	143	73	63	63	63	164
90°	1	15	42	39	40	11
95°	62	74	76	76	74	69
105°	255	258	260	263	263	269
115°	474	480	478	477	474	469
125°	689	700	696	692	691	616
135°	891	904	907	906	902	689
145°	1082	1090	1097	1098	1094	676
155°	1237	1240	1244	1250	1246	569
165°	1346	1345	1345	1353	1347	380
175°	1400	1397	1394	1403	1396	133
180°	1403	1403	1403	1403	1403	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3666.8	3666.8	3666.8	3666.8	3666.8
2.5°	3683.3	3666.8	3630.2	3663.6	3656.9
5°	3666.8	3650.3	3606.9	3636.9	3627.0
7.5°	3636.9	3617.1	3570.6	3583.7	3567.1
10°	3597.0	3573.9	3507.7	3497.5	3477.7
12.5°	3547.5	3517.5	3427.7	3408.0	3371.4
15°	3487.6	3451.0	3338.3	3275.3	3242.2
17.5°	3417.8	3364.7	3225.3	3152.4	3099.2
20°	3338.3	3271.8	3106.0	3023.2	2949.9
22.5°	3252.0	3175.6	2983.1	2870.4	2820.7
25°	3165.8	3059.5	2840.5	2704.6	2654.6
27.5°	3062.9	2949.9	2707.7	2551.8	2475.4
30°	2953.5	2827.1	2561.7	2392.7	2302.8
32.5°	2847.1	2694.4	2422.6	2223.3	2140.3
35°	2727.8	2558.5	2266.6	2057.5	1984.2
37.5°	2611.6	2428.9	2120.5	1891.3	1808.6
40°	2488.8	2289.9	1967.7	1732.1	1645.9
42.5°	2362.7	2150.5	1815.2	1569.6	1486.7
45°	2230.0	2007.5	1659.3	1423.4	1343.9
47.5°	2104.0	1868.4	1510.0	1274.1	1201.3
50°	1964.5	1729.0	1364.0	1134.7	1065.3
52.5°	1828.3	1579.3	1224.4	1005.5	942.5
55°	1695.6	1436.8	1078.4	879.4	816.4
57.5°	1559.7	1294.2	949.2	763.3	710.1
60°	1420.2	1154.8	812.9	643.9	590.8
62.5°	1284.3	1018.8	696.8	537.6	511.2
65°	1144.9	875.9	577.3	464.8	454.5
67.5°	1012.2	743.3	464.8	408.0	398.2
70°	872.8	614.1	384.8	351.7	338.4
72.5°	740.0	494.3	321.8	295.4	288.7
75°	610.5	378.2	265.5	242.2	239.1
77.5°	481.3	268.6	209.2	195.7	189.1
80°	361.5	192.6	159.1	146.1	146.1
82.5°	252.1	129.5	109.5	102.8	102.8
85°	142.6	72.9	63.0	63.0	63.0
87.5°	53.1	26.4	26.4	23.3	23.3
90°	1.2	15.2	41.5	38.9	40.1
92.5°	26.2	35.5	36.8	38.0	38.0
95°	61.8	73.6	75.7	75.7	73.6
97.5°	102.8	113.8	118.4	118.4	118.4
100°	150.2	159.9	163.2	163.2	162.0
102.5°	200.1	207.3	211.9	213.1	211.9
105°	254.6	258.0	260.5	262.6	262.6
107.5°	308.7	313.8	313.8	314.6	308.7
110°	361.2	368.0	368.0	368.0	364.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	417.9	425.1	423.7	420.4	417.9
115°	473.7	480.5	478.3	477.1	473.7
117.5°	529.1	538.4	532.5	529.1	525.8
120°	585.0	594.2	585.0	585.0	581.1
122.5°	635.7	647.5	641.7	638.2	635.7
125°	689.0	699.6	696.2	692.3	691.1
127.5°	741.0	754.1	749.5	744.4	741.0
130°	789.6	804.9	802.8	800.3	795.6
132.5°	844.2	856.0	856.9	850.9	847.6
135°	891.2	904.3	906.8	905.5	902.2
137.5°	943.6	954.2	956.3	955.4	950.4
140°	989.7	1000.3	1006.2	1006.2	1001.5
142.5°	1037.1	1047.7	1051.0	1052.3	1047.7
145°	1081.9	1090.4	1097.1	1098.5	1093.8
147.5°	1122.1	1132.6	1137.7	1139.8	1135.2
150°	1163.6	1170.8	1175.4	1179.2	1175.4
152.5°	1200.4	1207.5	1213.5	1218.1	1213.5
155°	1237.1	1240.5	1244.3	1250.3	1246.4
157.5°	1268.9	1271.4	1273.5	1282.0	1276.0
160°	1297.2	1299.7	1301.0	1308.2	1303.1
162.5°	1323.4	1323.4	1324.7	1332.7	1326.8
165°	1345.9	1344.6	1344.6	1353.0	1347.1
167.5°	1366.2	1362.3	1362.3	1370.8	1364.8
170°	1381.4	1377.9	1376.7	1385.1	1377.9
172.5°	1391.9	1388.6	1387.2	1395.8	1388.6
175°	1400.4	1397.0	1394.5	1402.9	1395.8
177.5°	1405.1	1401.7	1399.1	1406.3	1399.1
180°	1402.9	1402.9	1402.9	1402.9	1402.9

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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	13.52	14.50	14.34	15.34	16.37	9.49	10.47	10.31	11.30	12.33
	3H	15.21	16.08	16.04	16.93	17.98	10.69	11.56	11.51	12.40	13.46
	4H	15.82	16.64	16.67	17.49	18.56	11.14	11.96	11.98	12.81	13.88
	6H	16.24	17.00	17.10	17.86	18.94	11.46	12.22	12.32	13.08	14.16
	8H	16.37	17.09	17.24	17.97	19.05	11.55	12.28	12.42	13.15	14.23
	12H	16.44	17.12	17.31	17.99	19.10	11.60	12.29	12.47	13.16	14.26
4H	2H	13.56	14.38	14.41	15.23	16.30	10.10	10.93	10.95	11.78	12.85
	3H	15.40	16.08	16.26	16.96	18.05	11.46	12.14	12.32	13.03	14.11
	4H	16.09	16.71	16.96	17.59	18.70	12.01	12.63	12.88	13.51	14.62
	6H	16.61	17.14	17.50	18.05	19.16	12.43	12.96	13.32	13.87	14.98
	8H	16.78	17.28	17.67	18.18	19.31	12.56	13.06	13.45	13.96	15.08
	12H	16.88	17.33	17.79	18.25	19.38	12.62	13.07	13.53	13.99	15.12
8H	4H	16.07	16.57	16.96	17.47	18.59	12.29	12.80	13.19	13.69	14.82
	6H	16.63	17.04	17.55	17.99	19.11	12.81	13.22	13.73	14.16	15.29
	8H	16.84	17.21	17.77	18.14	19.29	13.00	13.36	13.93	14.30	15.44
	12H	16.98	17.31	17.91	18.23	19.43	13.12	13.44	14.05	14.37	15.56
12H	4H	16.02	16.48	16.94	17.39	18.53	12.30	12.76	13.22	13.67	14.81
	6H	16.61	16.97	17.53	17.91	19.05	12.86	13.22	13.79	14.16	15.30
	8H	16.83	17.15	17.76	18.08	19.27	13.07	13.39	14.00	14.32	15.51

END OF REPORT