

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: P912562

Luminaire Tested: DFN2DIP-TR3F0-030D070US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912562
REPORT IS A COMBINATION OF REPORTS P900328 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D070US850-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

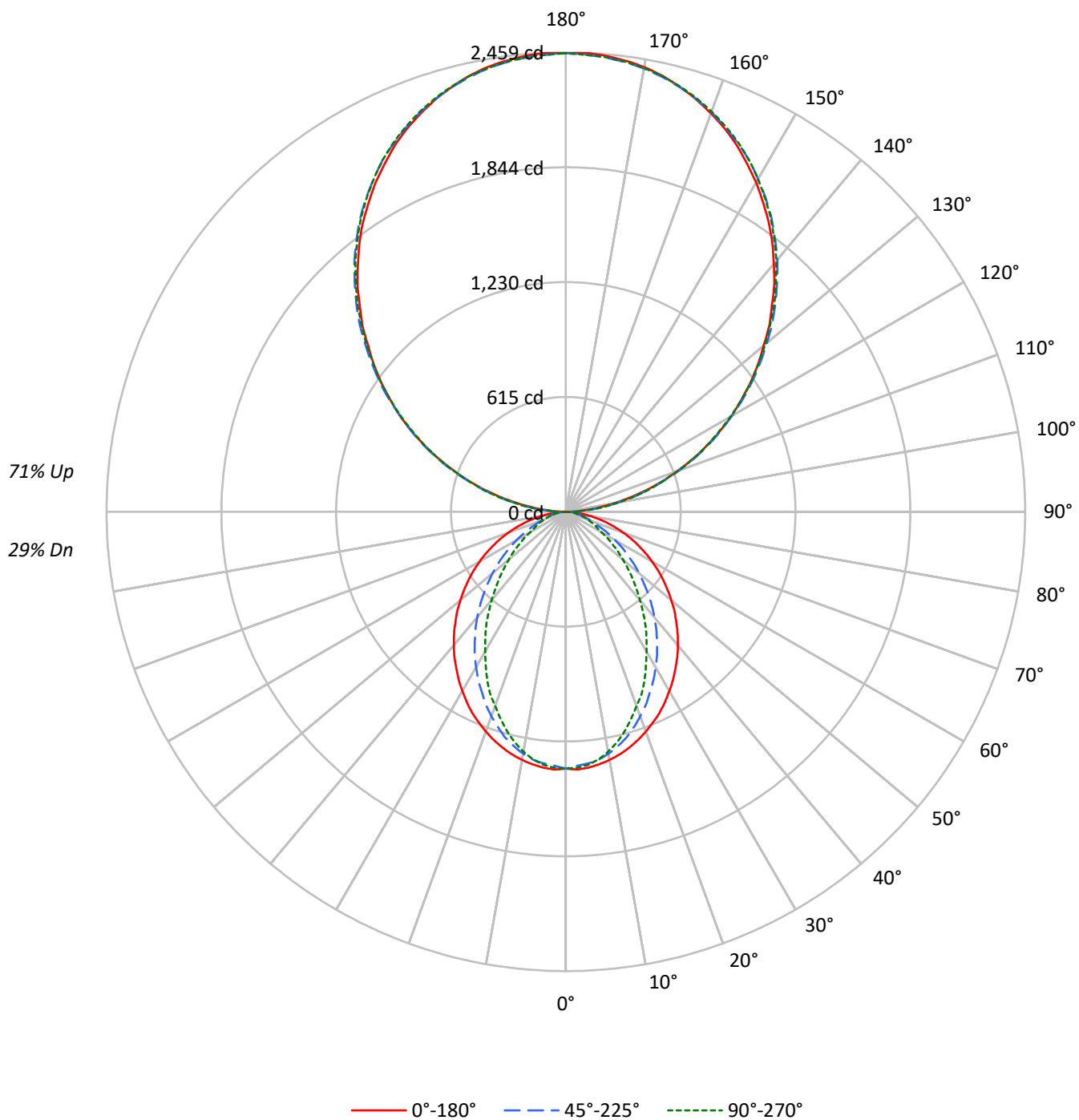
Lumens per Lamp: N/A
Luminaire Lumens: 9698.2 lumens
Efficiency: N/A
Efficacy: 125.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 77.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	102	102	102	102		92	92	92	92		72	72	72		54	54	54		37	37	37	29
1	93	89	86	82		84	80	77	74		63	61	59		48	46	45		33	32	32	25
2	85	78	72	68		76	70	66	61		56	52	49		42	40	38		29	28	27	22
3	78	69	62	57		70	62	56	52		49	45	42		37	35	32		26	25	23	19
4	71	61	54	48		64	55	49	44		44	39	36		33	30	28		24	22	20	16
5	65	54	47	41		59	49	43	38		39	35	31		30	27	24		21	19	18	14
6	60	49	41	36		54	44	38	33		35	31	27		27	24	21		20	17	16	13
7	56	44	36	31		50	40	33	29		32	27	24		25	21	19		18	16	14	11
8	52	40	33	27		46	36	30	25		29	24	21		23	19	17		16	14	13	10
9	48	36	29	24		43	33	27	23		27	22	19		21	18	15		15	13	12	9
10	45	33	26	22		40	30	24	20		25	20	17		19	16	14		14	12	11	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1713	1713	1713
5°	1715	1685	1696
10°	1697	1650	1640
15°	1673	1594	1553
20°	1641	1518	1448
25°	1609	1432	1346
30°	1565	1345	1217
35°	1522	1251	1104
40°	1479	1154	974
45°	1429	1046	857
50°	1376	938	742
55°	1322	822	632
60°	1258	701	519
65°	1185	579	466
70°	1097	464	420
75°	986	406	380
80°	825	336	326
85°	562	217	238

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2396 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.3
10°-20°	353.8	3.6
20°-30°	496.7	5.1
30°-40°	541.4	5.6
40°-50°	497.6	5.1
50°-60°	390.8	4.0
60°-70°	254.4	2.6
70°-80°	130.9	1.4
80°-90°	40.4	0.4
90°-100°	151.9	1.6
100°-110°	482.7	5.0
110°-120°	826.1	8.5
120°-130°	1086.4	11.2
130°-140°	1219.5	12.6
140°-150°	1195.8	12.3
150°-160°	1003.1	10.3
160°-170°	665.3	6.9
170°-180°	232.5	2.4
0°-30°	979.3	10.1
0°-40°	1520.7	15.7
0°-60°	2409.2	24.8
0°-90°	2834.9	29.2
90°-120°	1460.7	15.1
90°-150°	4962.4	51.2
90°-180°	6863.0	70.8
0°-180°	9698.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1375	1375	1375	1375	1375	
5°	1375	1369	1353	1364	1360	130
15°	1308	1294	1252	1228	1216	369
25°	1187	1147	1065	1014	995	546
35°	1023	959	850	772	744	640
45°	836	753	622	534	504	646
55°	636	539	404	330	306	568
65°	429	328	216	174	170	426
75°	229	142	100	91	90	242
85°	54	27	24	24	24	61
90°	2	27	72	68	70	10
95°	108	129	132	132	129	120
105°	446	452	456	460	460	470
115°	829	841	837	835	829	820
125°	1206	1224	1218	1212	1210	1077
135°	1560	1582	1587	1585	1579	1205
145°	1893	1908	1920	1922	1914	1183
155°	2165	2171	2178	2188	2181	997
165°	2355	2353	2353	2368	2357	664
175°	2451	2445	2440	2455	2443	233
180°	2455	2455	2455	2455	2455	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1375.0	1375.0	1375.0	1375.0	1375.0
2.5°	1381.3	1375.0	1361.3	1373.8	1371.4
5°	1375.0	1368.8	1352.6	1363.8	1360.1
7.5°	1363.8	1356.4	1339.0	1343.9	1337.7
10°	1348.9	1340.2	1315.4	1311.5	1304.2
12.5°	1330.2	1319.0	1285.4	1278.0	1264.3
15°	1307.8	1294.1	1251.8	1228.2	1215.8
17.5°	1281.7	1261.8	1209.5	1182.2	1162.2
20°	1251.8	1226.9	1164.7	1133.7	1106.2
22.5°	1219.6	1190.8	1118.6	1076.4	1057.8
25°	1187.2	1147.3	1065.2	1014.2	995.4
27.5°	1148.6	1106.2	1015.4	957.0	928.2
30°	1107.6	1060.2	960.6	897.3	863.6
32.5°	1067.6	1010.4	908.5	833.7	802.6
35°	1022.9	959.4	849.9	771.5	744.1
37.5°	979.4	910.8	795.2	709.2	678.3
40°	933.3	858.7	737.9	649.5	617.3
42.5°	886.0	806.5	680.7	588.5	557.5
45°	836.3	752.8	622.3	533.8	503.9
47.5°	788.9	700.7	566.3	477.8	450.5
50°	736.7	648.3	511.5	425.5	399.5
52.5°	685.6	592.3	459.2	377.1	353.4
55°	635.8	538.8	404.3	329.8	306.2
57.5°	584.9	485.3	356.0	286.2	266.3
60°	532.5	433.1	304.9	241.4	221.6
62.5°	481.6	382.1	261.3	201.6	191.7
65°	429.3	328.5	216.5	174.2	170.5
67.5°	379.6	278.7	174.2	153.0	149.3
70°	327.3	230.2	144.3	131.9	126.9
72.5°	277.5	185.3	120.7	110.8	108.2
75°	228.9	141.8	99.6	90.8	89.6
77.5°	180.4	100.7	78.4	73.4	70.9
80°	135.6	72.2	59.7	54.8	54.8
82.5°	94.5	48.6	41.0	38.6	38.6
85°	53.5	27.3	23.6	23.6	23.6
87.5°	20.0	9.9	9.9	8.8	8.8
90°	2.2	26.6	72.5	68.1	70.3
92.5°	45.9	62.2	64.4	66.7	66.7
95°	108.0	128.8	132.5	132.5	128.8
97.5°	179.9	199.1	207.3	207.3	207.3
100°	262.7	279.8	285.7	285.7	283.5
102.5°	350.1	362.6	370.8	373.1	370.8
105°	445.6	451.5	455.9	459.7	459.7
107.5°	540.3	549.2	549.2	550.7	540.3
110°	632.1	644.0	644.0	644.0	638.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	731.3	743.9	741.7	735.7	731.3
115°	829.0	840.8	837.2	835.0	829.0
117.5°	925.9	942.2	931.9	925.9	920.0
120°	1023.6	1039.9	1023.6	1023.6	1017.0
122.5°	1112.4	1133.2	1122.9	1116.9	1112.4
125°	1205.7	1224.2	1218.3	1211.7	1209.5
127.5°	1296.8	1319.7	1311.6	1302.7	1296.8
130°	1381.9	1408.5	1404.9	1400.4	1392.2
132.5°	1477.4	1498.1	1499.6	1489.3	1483.3
135°	1559.6	1582.4	1587.0	1584.7	1578.8
137.5°	1651.3	1669.8	1673.5	1672.0	1663.2
140°	1732.0	1750.6	1760.9	1760.9	1752.8
142.5°	1814.9	1833.4	1839.3	1841.5	1833.4
145°	1893.4	1908.1	1920.0	1922.2	1914.1
147.5°	1963.7	1982.2	1991.1	1994.8	1986.7
150°	2036.2	2048.8	2057.0	2063.6	2057.0
152.5°	2100.6	2113.2	2123.5	2131.7	2123.5
155°	2165.0	2170.9	2177.6	2187.9	2181.3
157.5°	2220.6	2225.0	2228.6	2243.5	2233.1
160°	2270.1	2274.6	2276.8	2289.3	2280.4
162.5°	2316.0	2316.0	2318.3	2332.2	2321.9
165°	2355.2	2353.0	2353.0	2367.8	2357.4
167.5°	2390.8	2384.1	2384.1	2398.9	2388.6
170°	2417.4	2411.5	2409.3	2424.1	2411.5
172.5°	2435.9	2429.9	2427.7	2442.6	2429.9
175°	2450.7	2444.8	2440.4	2455.1	2442.6
177.5°	2458.9	2452.9	2448.5	2461.1	2448.5
180°	2455.1	2455.1	2455.1	2455.1	2455.1

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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	6.62	7.31	7.75	8.42	9.96	2.60	3.29	3.72	4.40	5.94
	3H	8.28	8.89	9.41	10.01	11.57	3.77	4.38	4.90	5.51	7.06
	4H	8.88	9.46	10.02	10.58	12.14	4.21	4.79	5.35	5.91	7.48
	6H	9.28	9.82	10.43	10.94	12.52	4.52	5.06	5.67	6.18	7.75
	8H	9.40	9.91	10.55	11.05	12.61	4.60	5.11	5.75	6.25	7.82
	12H	9.45	9.94	10.61	11.07	12.66	4.64	5.12	5.79	6.26	7.85
4H	2H	6.62	7.20	7.77	8.33	9.89	3.17	3.75	4.32	4.87	6.44
	3H	8.43	8.91	9.58	10.06	11.63	4.50	4.99	5.65	6.13	7.71
	4H	9.11	9.55	10.26	10.69	12.28	5.04	5.48	6.19	6.62	8.22
	6H	9.61	9.99	10.77	11.14	12.73	5.45	5.83	6.61	6.98	8.57
	8H	9.77	10.13	10.93	11.28	12.88	5.57	5.92	6.73	7.07	8.68
	12H	9.86	10.18	11.03	11.34	12.95	5.62	5.95	6.80	7.11	8.71
8H	4H	9.06	9.42	10.22	10.57	12.17	5.30	5.66	6.46	6.81	8.41
	6H	9.61	9.91	10.79	11.10	12.70	5.81	6.10	6.99	7.29	8.89
	8H	9.82	10.08	11.01	11.25	12.87	6.00	6.25	7.18	7.42	9.04
	12H	9.95	10.17	11.14	11.34	12.99	6.10	6.33	7.29	7.50	9.15
12H	4H	9.01	9.33	10.18	10.49	12.10	5.30	5.62	6.48	6.78	8.39
	6H	9.59	9.84	10.77	11.01	12.63	5.86	6.11	7.04	7.28	8.90
	8H	9.79	10.02	10.98	11.19	12.84	6.05	6.28	7.24	7.45	9.10

END OF REPORT