

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: P912543

Luminaire Tested: DFN2DIP-TR2F0-060D060US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912543
REPORT IS A COMBINATION OF REPORTS P901790 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-060D060US850-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

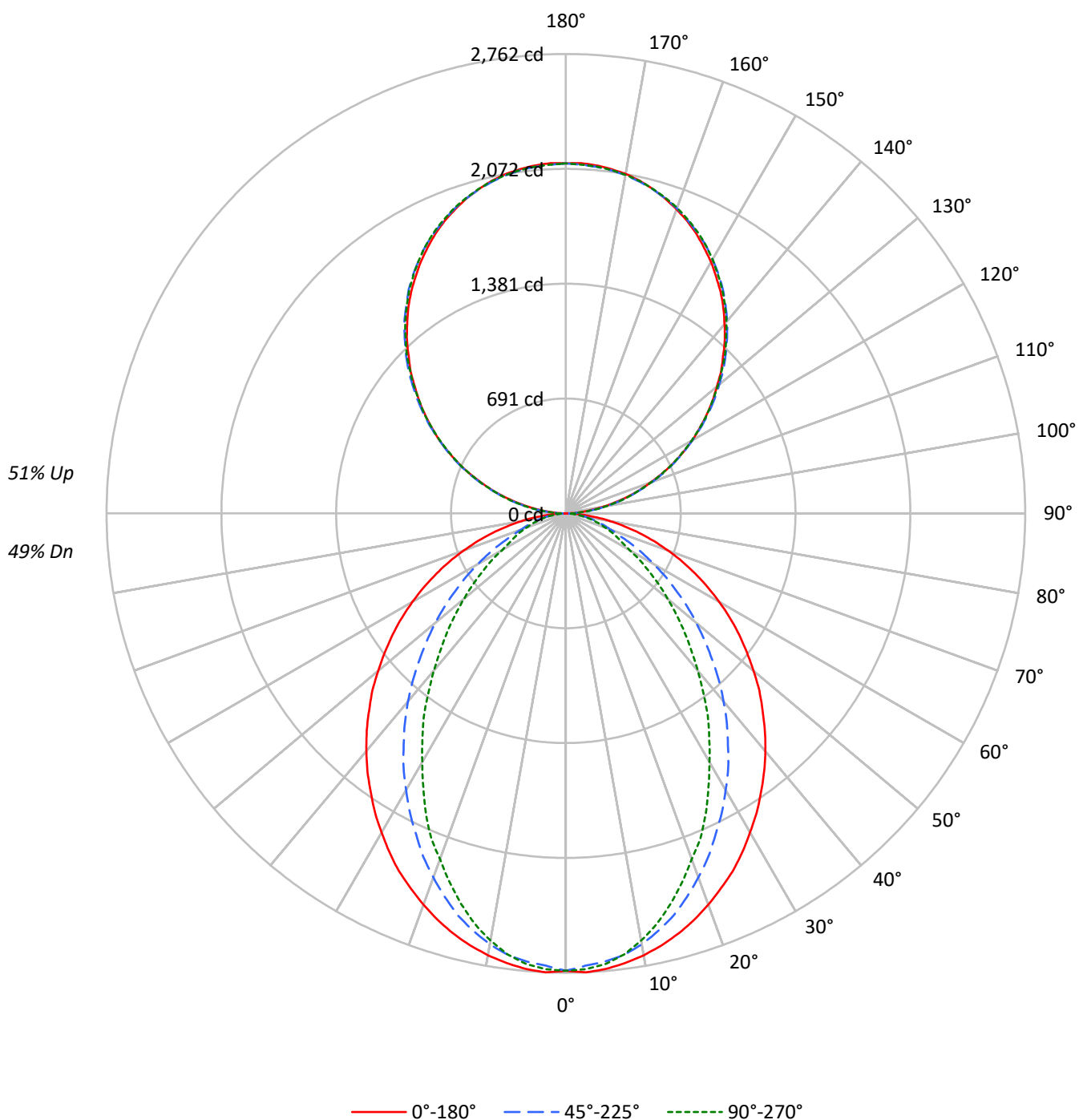
Lumens per Lamp: N/A
Luminaire Lumens: 11544.7 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 107.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6134	6134	6134
5°	6135	6023	6065
10°	6065	5891	5857
15°	5972	5683	5542
20°	5852	5402	5160
25°	5730	5090	4791
30°	5569	4770	4326
35°	5410	4429	3918
40°	5248	4076	3452
45°	5061	3688	3031
50°	4867	3296	2620
55°	4663	2880	2226
60°	4427	2446	1822
65°	4155	2008	1628
70°	3823	1599	1458
75°	3407	1383	1307
80°	2809	1122	1102
85°	1843	695	775

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5061 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.7	2.2
10°-20°	707.6	6.1
20°-30°	993.4	8.6
30°-40°	1082.8	9.4
40°-50°	995.2	8.6
50°-60°	781.6	6.8
60°-70°	508.8	4.4
70°-80°	261.9	2.3
80°-90°	72.8	0.6
90°-100°	130.2	1.1
100°-110°	413.7	3.6
110°-120°	708.0	6.1
120°-130°	931.2	8.1
130°-140°	1045.3	9.1
140°-150°	1025.0	8.9
150°-160°	859.8	7.4
160°-170°	570.2	4.9
170°-180°	199.3	1.7
0°-30°	1958.7	17.0
0°-40°	3041.5	26.3
0°-60°	4818.4	41.7
0°-90°	5661.9	49.0
90°-120°	1252.0	10.8
90°-150°	4253.5	36.8
90°-180°	5883.0	51.0
0°-180°	11544.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2750	2750	2750	2750	2750	
5°	2750	2738	2705	2728	2720	261
15°	2616	2588	2504	2456	2432	737
25°	2374	2295	2130	2028	1991	1092
35°	2046	1919	1700	1543	1488	1281
45°	1672	1506	1244	1068	1008	1292
55°	1272	1078	809	660	612	1136
65°	859	657	433	349	341	851
75°	458	284	199	182	179	484
85°	107	55	47	47	47	123
90°	2	23	62	58	60	11
95°	93	110	114	114	110	103
105°	382	387	391	394	394	403
115°	710	721	718	716	710	703
125°	1034	1049	1044	1039	1037	924
135°	1337	1356	1360	1358	1353	1033
145°	1623	1636	1646	1648	1641	1014
155°	1856	1861	1866	1875	1870	854
165°	2019	2017	2017	2030	2021	569
175°	2101	2096	2092	2104	2094	200
180°	2104	2104	2104	2104	2104	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2750.1	2750.1	2750.1	2750.1	2750.1
2.5°	2762.5	2750.1	2722.6	2747.7	2742.7
5°	2750.1	2737.7	2705.2	2727.7	2720.3
7.5°	2727.7	2712.8	2678.0	2687.8	2675.4
10°	2697.8	2680.3	2630.8	2623.1	2608.3
12.5°	2660.6	2638.1	2570.8	2556.0	2528.5
15°	2615.7	2588.2	2503.7	2456.4	2431.6
17.5°	2563.5	2523.5	2419.0	2364.3	2324.5
20°	2503.7	2453.8	2329.5	2267.4	2212.5
22.5°	2439.0	2381.7	2237.3	2152.8	2115.5
25°	2374.4	2294.6	2130.4	2028.5	1991.0
27.5°	2297.3	2212.5	2030.8	1913.8	1856.6
30°	2215.1	2120.3	1921.2	1794.5	1727.2
32.5°	2135.4	2020.8	1817.0	1667.5	1605.2
35°	2045.9	1918.9	1700.0	1543.1	1488.2
37.5°	1958.7	1821.6	1590.4	1418.5	1356.4
40°	1866.6	1717.4	1475.7	1299.1	1234.4
42.5°	1772.1	1612.8	1361.4	1177.1	1115.1
45°	1672.5	1505.6	1244.5	1067.5	1007.9
47.5°	1578.0	1401.3	1132.5	955.6	901.0
50°	1473.4	1296.8	1022.9	851.0	799.0
52.5°	1371.2	1184.5	918.4	754.1	706.9
55°	1271.7	1077.6	808.8	659.6	612.3
57.5°	1169.8	970.6	711.9	572.5	532.5
60°	1065.2	866.1	609.7	483.0	443.0
62.5°	963.3	764.2	522.6	403.2	383.4
65°	858.7	657.0	433.1	348.6	340.9
67.5°	759.1	557.4	348.6	306.1	298.7
70°	654.5	460.5	288.6	263.8	253.7
72.5°	555.1	370.7	241.3	221.6	216.5
75°	457.9	283.6	199.1	181.7	179.3
77.5°	361.0	201.5	156.8	146.8	141.8
80°	271.2	144.4	119.3	109.6	109.6
82.5°	189.1	97.1	82.1	77.1	77.1
85°	106.9	54.7	47.2	47.2	47.2
87.5°	39.9	19.9	19.9	17.4	17.4
90°	1.9	22.8	62.2	58.3	60.2
92.5°	39.4	53.3	55.2	57.1	57.1
95°	92.6	110.3	113.6	113.6	110.3
97.5°	154.2	170.7	177.7	177.7	177.7
100°	225.2	239.8	244.9	244.9	243.0
102.5°	300.1	310.9	317.8	319.7	317.8
105°	381.9	387.0	390.8	394.0	394.0
107.5°	463.1	470.8	470.8	472.0	463.1
110°	541.9	551.9	551.9	551.9	546.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	626.8	637.6	635.7	630.6	626.8
115°	710.5	720.7	717.5	715.6	710.5
117.5°	793.7	807.7	798.7	793.7	788.6
120°	877.4	891.4	877.4	877.4	871.7
122.5°	953.5	971.3	962.4	957.4	953.5
125°	1033.5	1049.3	1044.2	1038.6	1036.7
127.5°	1111.6	1131.2	1124.2	1116.7	1111.6
130°	1184.5	1207.4	1204.2	1200.4	1193.4
132.5°	1266.4	1284.1	1285.3	1276.5	1271.4
135°	1336.8	1356.4	1360.2	1358.3	1353.2
137.5°	1415.4	1431.3	1434.5	1433.2	1425.6
140°	1484.6	1500.5	1509.3	1509.3	1502.4
142.5°	1555.6	1571.5	1576.6	1578.4	1571.5
145°	1622.9	1635.6	1645.8	1647.6	1640.7
147.5°	1683.1	1699.0	1706.6	1709.7	1702.8
150°	1745.3	1756.1	1763.1	1768.7	1763.1
152.5°	1800.5	1811.3	1820.2	1827.2	1820.2
155°	1855.7	1860.8	1866.4	1875.4	1869.7
157.5°	1903.3	1907.1	1910.3	1923.0	1914.1
160°	1945.9	1949.6	1951.5	1962.3	1954.7
162.5°	1985.1	1985.1	1987.0	1999.1	1990.2
165°	2018.7	2016.8	2016.8	2029.6	2020.7
167.5°	2049.2	2043.6	2043.6	2056.2	2047.3
170°	2072.1	2067.0	2065.1	2077.7	2067.0
172.5°	2087.9	2082.8	2080.9	2093.6	2082.8
175°	2100.6	2095.6	2091.7	2104.4	2093.6
177.5°	2107.5	2102.6	2098.7	2109.4	2098.7
180°	2104.4	2104.4	2104.4	2104.4	2104.4

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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	13.23	14.05	14.20	15.03	16.32	9.21	10.03	10.18	11.01	12.30
	3H	14.88	15.62	15.86	16.61	17.92	10.38	11.12	11.37	12.11	13.42
	4H	15.47	16.17	16.47	17.16	18.48	10.82	11.52	11.82	12.51	13.83
	6H	15.88	16.52	16.88	17.51	18.84	11.13	11.77	12.14	12.77	14.10
	8H	15.99	16.60	17.00	17.62	18.94	11.21	11.82	12.22	12.84	14.16
	12H	16.04	16.62	17.06	17.63	18.98	11.25	11.83	12.27	12.84	14.19
4H	2H	13.24	13.94	14.24	14.93	16.25	9.79	10.49	10.79	11.48	12.80
	3H	15.04	15.62	16.05	16.64	17.98	11.12	11.70	12.13	12.72	14.06
	4H	15.72	16.25	16.74	17.26	18.62	11.66	12.19	12.68	13.20	14.56
	6H	16.21	16.66	17.24	17.70	19.05	12.06	12.51	13.09	13.55	14.90
	8H	16.37	16.79	17.40	17.83	19.19	12.18	12.60	13.21	13.63	15.00
	12H	16.45	16.84	17.50	17.88	19.25	12.23	12.62	13.28	13.66	15.03
8H	4H	15.68	16.10	16.71	17.14	18.50	11.92	12.35	12.95	13.38	14.74
	6H	16.22	16.57	17.27	17.64	19.01	12.42	12.77	13.47	13.84	15.21
	8H	16.42	16.73	17.48	17.79	19.17	12.60	12.90	13.66	13.96	15.35
	12H	16.54	16.81	17.61	17.87	19.29	12.70	12.97	13.77	14.03	15.45
12H	4H	15.63	16.01	16.68	17.06	18.43	11.92	12.31	12.97	13.35	14.72
	6H	16.19	16.50	17.26	17.56	18.94	12.46	12.77	13.52	13.83	15.21
	8H	16.40	16.67	17.46	17.72	19.15	12.66	12.93	13.72	13.98	15.41