

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: P915345

Luminaire Tested: DFN2DIP-TR3F0-050D080US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915345
REPORT IS A COMBINATION OF REPORTS P901865 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D080US927-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

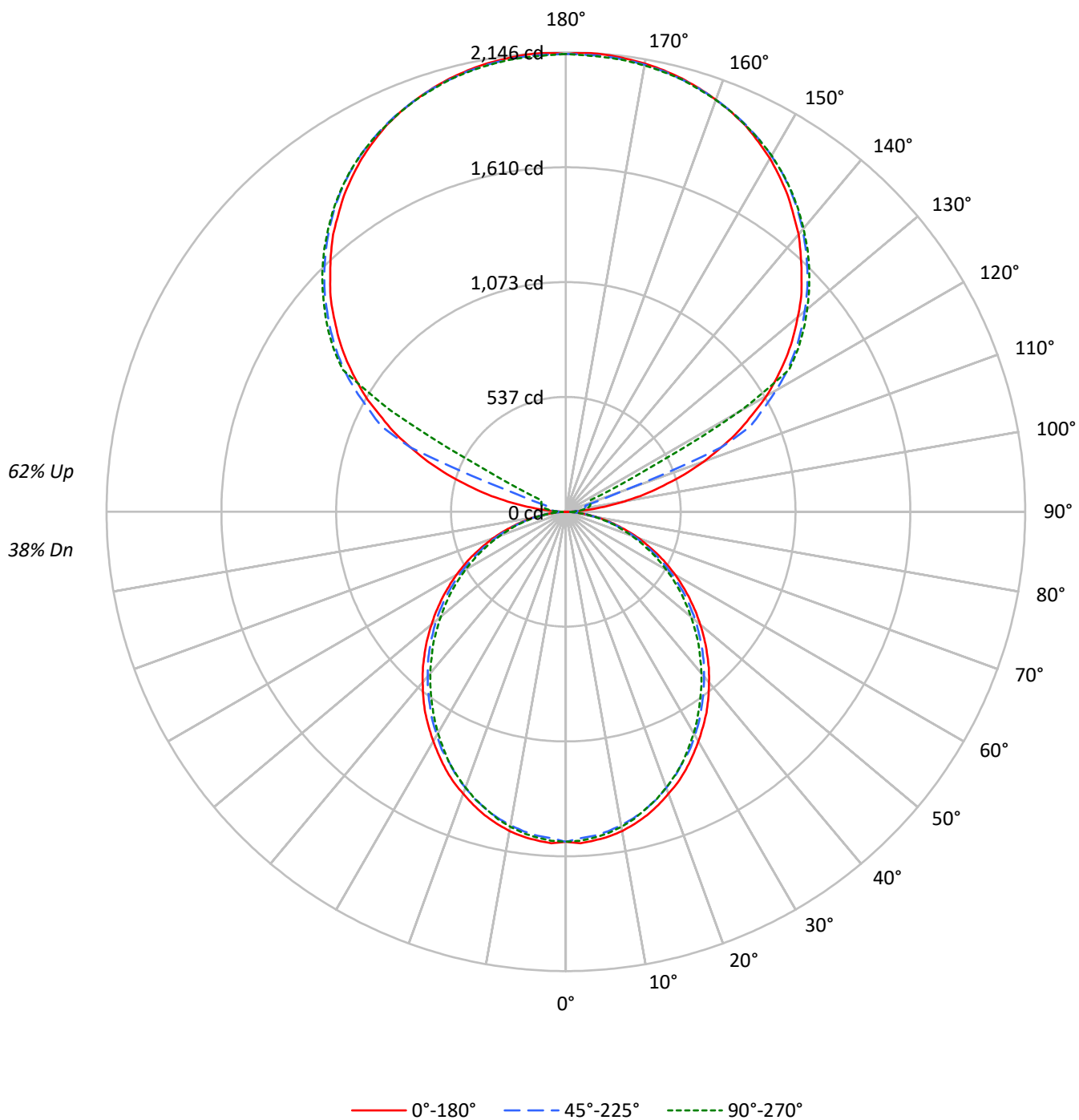
Lumens per Lamp: N/A
Luminaire Lumens: 10195.3 lumens
Efficiency: N/A
Efficacy: 95.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 106.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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
RCR																	
0	104	104	104	104	95	95	95	95	77	77	77		61	61	61		46
1	95	91	87	84	86	83	80	77	67	65	63		53	52	50		40
2	87	79	73	68	78	72	67	63	59	55	52		47	44	42		35
3	79	70	63	57	71	64	57	52	52	48	44		41	38	36		31
4	72	62	54	48	65	56	50	44	46	41	37		37	33	30		28
5	66	55	47	41	60	50	43	38	41	36	32		33	29	26		25
6	61	49	41	36	55	45	38	33	37	32	28		30	26	23		23
7	56	44	36	31	51	41	34	29	34	28	25		27	23	20		21
8	52	40	33	27	47	37	30	25	31	25	22		25	21	18		19
9	49	37	29	24	44	34	27	23	28	23	19		23	19	16		18
10	45	33	26	22	41	31	25	20	26	21	17		21	17	15		16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1920	1920	1920
5°	1923	1892	1905
10°	1906	1865	1878
15°	1877	1833	1837
20°	1838	1789	1794
25°	1799	1736	1745
30°	1751	1687	1683
35°	1705	1629	1618
40°	1649	1571	1556
45°	1592	1512	1491
50°	1531	1451	1418
55°	1466	1379	1349
60°	1393	1295	1272
65°	1314	1208	1179
70°	1212	1101	1080
75°	1072	973	986
80°	902	810	810
85°	637	533	523

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1592 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.1	1.4
10°-20°	408.1	4.0
20°-30°	599.8	5.9
30°-40°	696.6	6.8
40°-50°	695.8	6.8
50°-60°	606.7	6.0
60°-70°	448.5	4.4
70°-80°	253.7	2.5
80°-90°	70.7	0.7
90°-100°	70.5	0.7
100°-110°	262.9	2.6
110°-120°	697.3	6.8
120°-130°	1156.5	11.3
130°-140°	1228.4	12.0
140°-150°	1141.7	11.2
150°-160°	917.9	9.0
160°-170°	591.5	5.8
170°-180°	203.6	2.0
0°-30°	1153.0	11.3
0°-40°	1849.6	18.1
0°-60°	3152.1	30.9
0°-90°	3925.0	38.5
90°-120°	1030.7	10.1
90°-150°	4557.3	44.7
90°-180°	6270.0	61.5
0°-180°	10195.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1541	1541	1541	1541	1541	
5°	1541	1535	1519	1531	1528	146
15°	1467	1458	1439	1445	1438	413
25°	1328	1316	1291	1294	1291	611
35°	1146	1131	1107	1098	1091	715
45°	932	922	900	883	877	719
55°	706	697	679	661	654	631
65°	476	467	452	439	431	470
75°	249	246	238	230	233	266
85°	61	59	58	53	52	68
90°	2	18	31	39	42	9
95°	100	49	60	68	66	119
105°	470	517	94	111	118	503
115°	890	916	955	238	127	876
125°	1258	1278	1308	1319	1323	1122
135°	1557	1582	1596	1611	1608	1203
145°	1806	1804	1831	1842	1834	1130
155°	1989	1975	1993	2003	1990	916
165°	2096	2086	2091	2102	2091	592
175°	2143	2133	2136	2146	2131	204
180°	2139	2139	2139	2139	2139	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1541.2	1541.2	1541.2	1541.2	1541.2
2.5°	1550.1	1542.8	1526.5	1541.2	1538.4
5°	1541.2	1535.4	1519.0	1530.8	1528.0
7.5°	1530.8	1522.0	1505.7	1517.7	1514.7
10°	1514.7	1504.3	1486.5	1498.3	1493.9
12.5°	1492.3	1483.5	1465.8	1473.1	1470.1
15°	1467.1	1458.3	1439.0	1445.0	1437.6
17.5°	1436.0	1427.2	1407.9	1415.2	1407.9
20°	1401.9	1393.1	1372.4	1376.7	1370.9
22.5°	1367.9	1354.6	1335.2	1335.2	1332.2
25°	1327.9	1316.1	1290.9	1293.7	1290.9
27.5°	1283.3	1273.0	1253.8	1249.3	1242.0
30°	1239.0	1227.1	1204.9	1200.5	1194.5
32.5°	1191.5	1182.7	1159.0	1150.0	1144.1
35°	1145.6	1130.8	1107.1	1098.1	1090.8
37.5°	1093.7	1080.4	1056.6	1046.2	1038.9
40°	1040.5	1028.5	1004.7	991.5	985.6
42.5°	988.6	976.6	953.0	938.0	929.2
45°	932.2	921.9	899.5	883.4	877.3
47.5°	877.3	867.0	843.3	826.9	818.1
50°	819.5	812.1	791.4	770.6	763.2
52.5°	763.2	752.8	733.6	717.3	706.9
55°	705.5	696.6	678.7	661.0	653.6
57.5°	647.6	640.2	620.9	603.2	597.1
60°	589.8	584.0	563.2	546.8	542.5
62.5°	533.5	523.2	508.3	493.5	487.6
65°	475.8	466.8	452.0	438.7	431.3
67.5°	416.5	409.0	395.8	385.4	379.4
70°	361.6	355.7	342.3	331.9	326.1
72.5°	305.4	299.4	292.0	281.6	277.2
75°	248.9	246.1	238.5	229.7	232.7
77.5°	198.6	192.6	189.6	185.2	180.9
80°	148.3	146.7	143.7	139.3	136.3
82.5°	100.8	100.8	99.3	93.4	93.4
85°	60.7	59.3	57.8	53.3	51.9
87.5°	26.7	23.8	20.8	16.3	14.8
90°	1.5	18.5	30.9	38.7	41.7
92.5°	38.7	32.6	37.2	40.2	41.7
95°	100.5	49.4	60.3	68.2	66.5
97.5°	181.0	54.2	78.8	83.7	85.1
100°	274.0	61.9	88.2	100.5	103.6
102.5°	376.0	373.0	91.3	108.2	113.0
105°	470.5	517.0	94.4	111.4	117.6
107.5°	580.4	618.9	97.6	114.5	120.7
110°	685.7	718.0	270.9	116.1	122.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	784.7	812.5	786.2	119.1	123.9
115°	889.9	916.2	954.9	238.4	127.0
117.5°	981.2	1012.1	1038.5	817.1	411.7
120°	1083.4	1106.5	1134.5	1153.0	944.0
122.5°	1169.9	1194.8	1225.8	1235.0	1236.7
125°	1258.1	1278.3	1307.7	1318.6	1323.2
127.5°	1338.6	1360.3	1383.7	1399.1	1400.6
130°	1414.5	1439.3	1456.3	1473.4	1471.9
132.5°	1491.9	1512.1	1529.1	1543.0	1541.5
135°	1557.0	1581.7	1595.5	1611.2	1608.0
137.5°	1625.0	1643.5	1659.1	1674.6	1670.0
140°	1691.5	1704.0	1720.9	1734.9	1727.1
142.5°	1747.4	1758.2	1778.2	1790.6	1782.8
145°	1806.2	1804.5	1830.8	1841.7	1833.9
147.5°	1857.1	1852.5	1878.7	1886.5	1880.4
150°	1906.7	1895.8	1920.6	1929.8	1922.1
152.5°	1948.4	1936.1	1959.2	1968.6	1957.8
155°	1988.7	1974.9	1993.4	2002.6	1990.4
157.5°	2021.2	2008.9	2022.8	2033.7	2021.2
160°	2049.1	2039.8	2049.1	2058.3	2047.5
162.5°	2073.8	2064.6	2072.3	2083.1	2069.2
165°	2095.5	2086.3	2090.9	2101.7	2090.9
167.5°	2112.5	2103.2	2107.9	2118.8	2104.8
170°	2126.5	2117.1	2120.3	2131.1	2117.1
172.5°	2135.7	2126.5	2129.6	2140.5	2126.5
175°	2143.4	2132.6	2135.7	2146.5	2131.1
177.5°	2146.5	2135.7	2137.3	2148.2	2134.2
180°	2138.8	2138.8	2138.8	2138.8	2138.8

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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	8.32	9.09	9.37	10.14	11.57	7.89	8.66	8.94	9.71	11.14
	3H	9.96	10.65	11.02	11.71	13.16	9.50	10.18	10.56	11.25	12.69
	4H	10.54	11.19	11.61	12.26	13.71	10.07	10.73	11.14	11.79	13.24
	6H	10.93	11.53	12.01	12.60	14.06	10.46	11.06	11.54	12.13	13.59
	8H	11.03	11.60	12.11	12.68	14.14	10.56	11.13	11.64	12.21	13.67
	12H	11.07	11.61	12.16	12.69	14.17	10.60	11.14	11.69	12.22	13.70
4H	2H	8.77	9.42	9.84	10.48	11.94	8.42	9.08	9.50	10.14	11.59
	3H	10.61	11.16	11.70	12.25	13.71	10.22	10.77	11.31	11.86	13.33
	4H	11.32	11.82	12.41	12.90	14.38	10.92	11.41	12.01	12.50	13.98
	6H	11.82	12.25	12.92	13.35	14.83	11.41	11.84	12.51	12.95	14.43
	8H	11.96	12.36	13.06	13.46	14.95	11.55	11.95	12.65	13.05	14.55
	12H	12.02	12.39	13.14	13.50	15.00	11.61	11.97	12.73	13.08	14.58
8H	4H	11.50	11.90	12.60	13.00	14.50	11.14	11.54	12.24	12.64	14.14
	6H	12.12	12.45	13.24	13.59	15.08	11.76	12.09	12.88	13.23	14.72
	8H	12.33	12.62	13.46	13.74	15.25	11.97	12.26	13.09	13.38	14.89
	12H	12.45	12.71	13.58	13.82	15.37	12.07	12.33	13.21	13.45	15.00
12H	4H	11.48	11.84	12.60	12.96	14.46	11.13	11.49	12.25	12.61	14.11
	6H	12.15	12.43	13.27	13.56	15.07	11.80	12.09	12.92	13.21	14.72
	8H	12.38	12.63	13.51	13.75	15.30	12.02	12.28	13.15	13.40	14.94