

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: P915381

Luminaire Tested: DFN2DIP-TR3F0-070D040US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915381
REPORT IS A COMBINATION OF REPORTS P901813 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D040US927-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

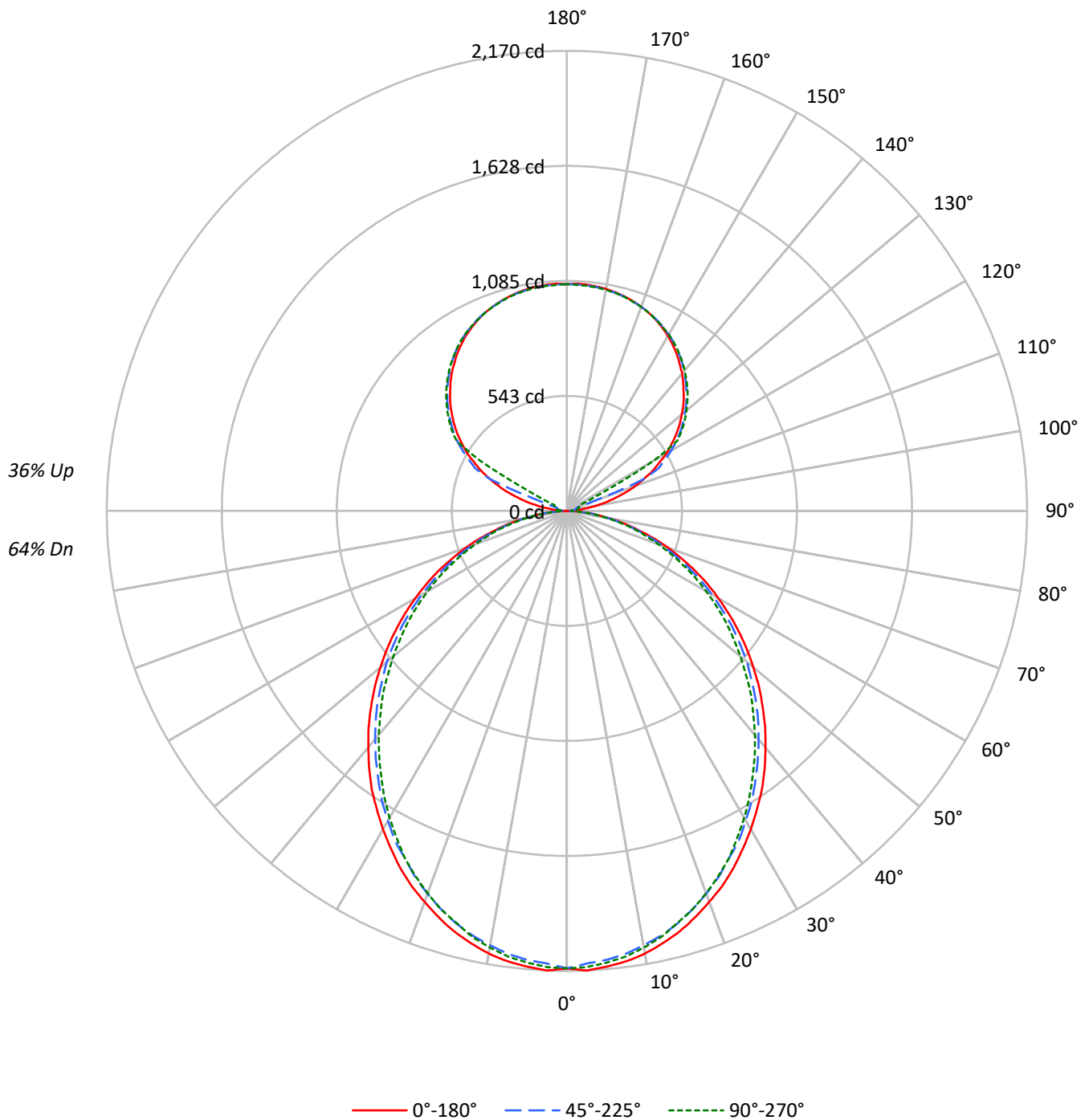
Lumens per Lamp: N/A
Luminaire Lumens: 8626.9 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 99.7
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
RCR																	
0	110	110	110	110	104	104	104	104	91	91	91		79	79	79		69
1	101	96	92	89	94	91	87	84	80	77	75		70	68	66		61
2	92	84	78	73	86	79	74	69	70	66	62		61	58	55		53
3	84	74	67	61	78	70	63	58	62	57	52		54	50	47		47
4	77	66	58	51	72	62	55	49	55	49	45		48	44	40		42
5	71	59	50	44	66	55	48	42	49	43	39		44	39	35		38
6	65	53	44	38	61	50	42	37	44	38	34		39	34	31		35
7	60	48	39	34	56	45	38	32	40	34	30		36	31	27		32
8	56	43	35	30	52	41	34	29	37	31	27		33	28	24		29
9	52	40	32	27	49	38	31	26	34	28	24		30	25	22		27
10	49	36	29	24	46	35	28	23	31	26	22		28	23	20		25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2689	2689	2689
5°	2692	2649	2667
10°	2668	2611	2629
15°	2627	2566	2571
20°	2573	2504	2512
25°	2519	2430	2443
30°	2451	2361	2356
35°	2387	2281	2265
40°	2308	2199	2178
45°	2229	2117	2088
50°	2143	2031	1985
55°	2053	1931	1889
60°	1951	1814	1780
65°	1839	1691	1651
70°	1697	1542	1511
75°	1501	1362	1380
80°	1263	1134	1134
85°	892	746	732

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2229 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	2.4
10°-20°	571.4	6.6
20°-30°	839.7	9.7
30°-40°	975.3	11.3
40°-50°	974.1	11.3
50°-60°	849.4	9.8
60°-70°	627.9	7.3
70°-80°	355.2	4.1
80°-90°	95.6	1.1
90°-100°	35.2	0.4
100°-110°	131.5	1.5
110°-120°	348.6	4.0
120°-130°	578.2	6.7
130°-140°	614.2	7.1
140°-150°	570.9	6.6
150°-160°	458.9	5.3
160°-170°	295.7	3.4
170°-180°	101.8	1.2
0°-30°	1614.2	18.7
0°-40°	2589.5	30.0
0°-60°	4412.9	51.2
0°-90°	5491.7	63.7
90°-120°	515.3	6.0
90°-150°	2278.7	26.4
90°-180°	3135.0	36.3
0°-180°	8626.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2158	2150	2127	2143	2139	205
15°	2054	2042	2015	2023	2013	578
25°	1859	1842	1807	1811	1807	855
35°	1604	1583	1550	1537	1527	1002
45°	1305	1291	1259	1237	1228	1007
55°	988	975	950	925	915	883
65°	666	654	633	614	604	659
75°	348	344	334	322	326	372
85°	85	83	81	75	73	95
90°	1	9	15	19	21	8
95°	50	25	30	34	33	60
105°	235	258	47	56	59	251
115°	445	458	477	119	64	438
125°	629	639	654	659	662	561
135°	778	791	798	806	804	601
145°	903	902	915	921	917	565
155°	994	988	997	1001	995	458
165°	1048	1043	1045	1051	1045	296
175°	1072	1066	1068	1073	1066	102
180°	1069	1069	1069	1069	1069	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2157.7	2157.7	2157.7	2157.7	2157.7
2.5°	2170.3	2159.9	2137.0	2157.7	2153.7
5°	2157.7	2149.6	2126.7	2143.2	2139.2
7.5°	2143.2	2130.8	2107.9	2124.7	2120.5
10°	2120.5	2105.9	2081.1	2097.6	2091.4
12.5°	2089.2	2076.9	2052.1	2062.4	2058.2
15°	2054.0	2041.7	2014.6	2023.0	2012.6
17.5°	2010.4	1998.1	1971.0	1981.4	1971.0
20°	1962.6	1950.4	1921.3	1927.5	1919.3
22.5°	1915.1	1896.4	1869.3	1869.3	1865.1
25°	1859.0	1842.5	1807.3	1811.2	1807.3
27.5°	1796.7	1782.2	1755.3	1749.1	1738.8
30°	1734.6	1717.8	1686.9	1680.7	1672.3
32.5°	1668.1	1655.8	1622.5	1610.0	1601.6
35°	1603.8	1583.2	1549.9	1537.4	1527.0
37.5°	1531.2	1512.5	1479.2	1464.7	1454.4
40°	1456.6	1439.9	1406.6	1388.1	1379.7
42.5°	1383.9	1367.2	1334.2	1313.3	1300.9
45°	1305.1	1290.6	1259.3	1236.7	1228.3
47.5°	1228.3	1213.8	1180.5	1157.6	1145.3
50°	1147.3	1136.9	1107.9	1078.9	1068.5
52.5°	1068.5	1054.0	1027.1	1004.2	989.7
55°	987.7	975.2	950.3	925.4	915.0
57.5°	906.7	896.4	869.3	844.4	836.1
60°	825.7	817.5	788.5	765.6	759.5
62.5°	746.9	732.4	711.7	691.0	682.6
65°	666.1	653.5	632.9	614.2	603.8
67.5°	583.1	572.6	554.1	539.6	531.2
70°	506.3	498.0	479.2	464.7	456.5
72.5°	427.5	419.1	408.8	394.3	388.1
75°	348.5	344.5	333.9	321.6	325.8
77.5°	278.1	269.7	265.5	259.3	253.2
80°	207.6	205.4	201.2	195.0	190.8
82.5°	141.1	141.1	139.1	130.8	130.8
85°	85.0	83.0	81.0	74.6	72.6
87.5°	37.4	33.3	29.1	22.9	20.7
90°	0.7	9.3	15.4	19.4	20.8
92.5°	19.4	16.2	18.5	20.1	20.8
95°	50.2	24.7	30.1	34.1	33.3
97.5°	90.5	27.1	39.5	41.8	42.5
100°	137.0	31.0	44.1	50.2	51.8
102.5°	188.0	186.6	45.6	54.1	56.5
105°	235.2	258.5	47.2	55.7	58.8
107.5°	290.2	309.5	48.8	57.3	60.4
110°	342.9	359.0	135.5	58.1	61.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	392.4	406.2	393.1	59.6	61.9
115°	444.9	458.0	477.4	119.1	63.5
117.5°	490.6	506.0	519.3	408.5	205.8
120°	541.7	553.3	567.2	576.5	472.1
122.5°	584.9	597.4	612.9	617.5	618.3
125°	629.1	639.2	653.9	659.3	661.6
127.5°	669.3	680.2	691.8	699.6	700.3
130°	707.3	719.7	728.1	736.6	735.9
132.5°	745.9	756.1	764.5	771.5	770.8
135°	778.5	790.9	797.8	805.6	804.1
137.5°	812.5	821.7	829.6	837.3	835.0
140°	845.7	852.0	860.5	867.4	863.6
142.5°	873.7	879.1	889.1	895.2	891.4
145°	903.1	902.3	915.4	920.8	916.9
147.5°	928.5	926.2	939.4	943.3	940.2
150°	953.3	947.9	960.4	965.0	961.1
152.5°	974.2	968.0	979.6	984.3	978.9
155°	994.3	987.5	996.7	1001.3	995.1
157.5°	1010.6	1004.4	1011.5	1016.8	1010.6
160°	1024.5	1019.9	1024.5	1029.1	1023.7
162.5°	1036.9	1032.3	1036.2	1041.6	1034.6
165°	1047.7	1043.1	1045.4	1050.8	1045.4
167.5°	1056.3	1051.5	1054.0	1059.4	1052.4
170°	1063.3	1058.6	1060.1	1065.6	1058.6
172.5°	1067.9	1063.3	1064.8	1070.2	1063.3
175°	1071.7	1066.3	1067.9	1073.2	1065.6
177.5°	1073.2	1067.9	1068.7	1074.1	1067.1
180°	1069.4	1069.4	1069.4	1069.4	1069.4

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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	11.83	12.83	12.66	13.68	14.74	11.40	12.40	12.23	13.25	14.31
	3H	13.49	14.39	14.33	15.25	16.34	13.02	13.92	13.87	14.78	15.87
	4H	14.08	14.93	14.94	15.80	16.90	13.61	14.46	14.47	15.33	16.43
	6H	14.48	15.26	15.35	16.14	17.25	14.01	14.79	14.88	15.67	16.78
	8H	14.58	15.33	15.46	16.22	17.34	14.11	14.86	14.99	15.75	16.87
	12H	14.63	15.34	15.52	16.23	17.37	14.16	14.87	15.04	15.76	16.90
4H	2H	12.30	13.15	13.17	14.02	15.12	11.96	12.81	12.83	13.68	14.78
	3H	14.17	14.88	15.05	15.78	16.90	13.78	14.49	14.66	15.39	16.51
	4H	14.88	15.53	15.77	16.43	17.57	14.48	15.13	15.37	16.03	17.17
	6H	15.40	15.96	16.30	16.88	18.02	14.99	15.55	15.90	16.47	17.62
	8H	15.55	16.07	16.45	16.98	18.14	15.14	15.66	16.05	16.58	17.74
	12H	15.62	16.09	16.55	17.03	18.19	15.21	15.68	16.13	16.61	17.77
8H	4H	15.09	15.61	15.99	16.53	17.68	14.73	15.25	15.64	16.17	17.33
	6H	15.71	16.15	16.65	17.10	18.26	15.36	15.79	16.29	16.75	17.90
	8H	15.93	16.31	16.87	17.26	18.44	15.57	15.95	16.51	16.90	18.07
	12H	16.06	16.40	17.01	17.34	18.56	15.68	16.02	16.63	16.96	18.19
12H	4H	15.08	15.55	16.00	16.48	17.65	14.73	15.20	15.66	16.14	17.30
	6H	15.74	16.13	16.69	17.08	18.25	15.40	15.78	16.34	16.73	17.90
	8H	15.99	16.32	16.93	17.26	18.49	15.63	15.97	16.58	16.91	18.14