

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: P915384

Luminaire Tested: DFN2DIP-TR3F0-070D050US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915384
REPORT IS A COMBINATION OF REPORTS P900307 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D050US927-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

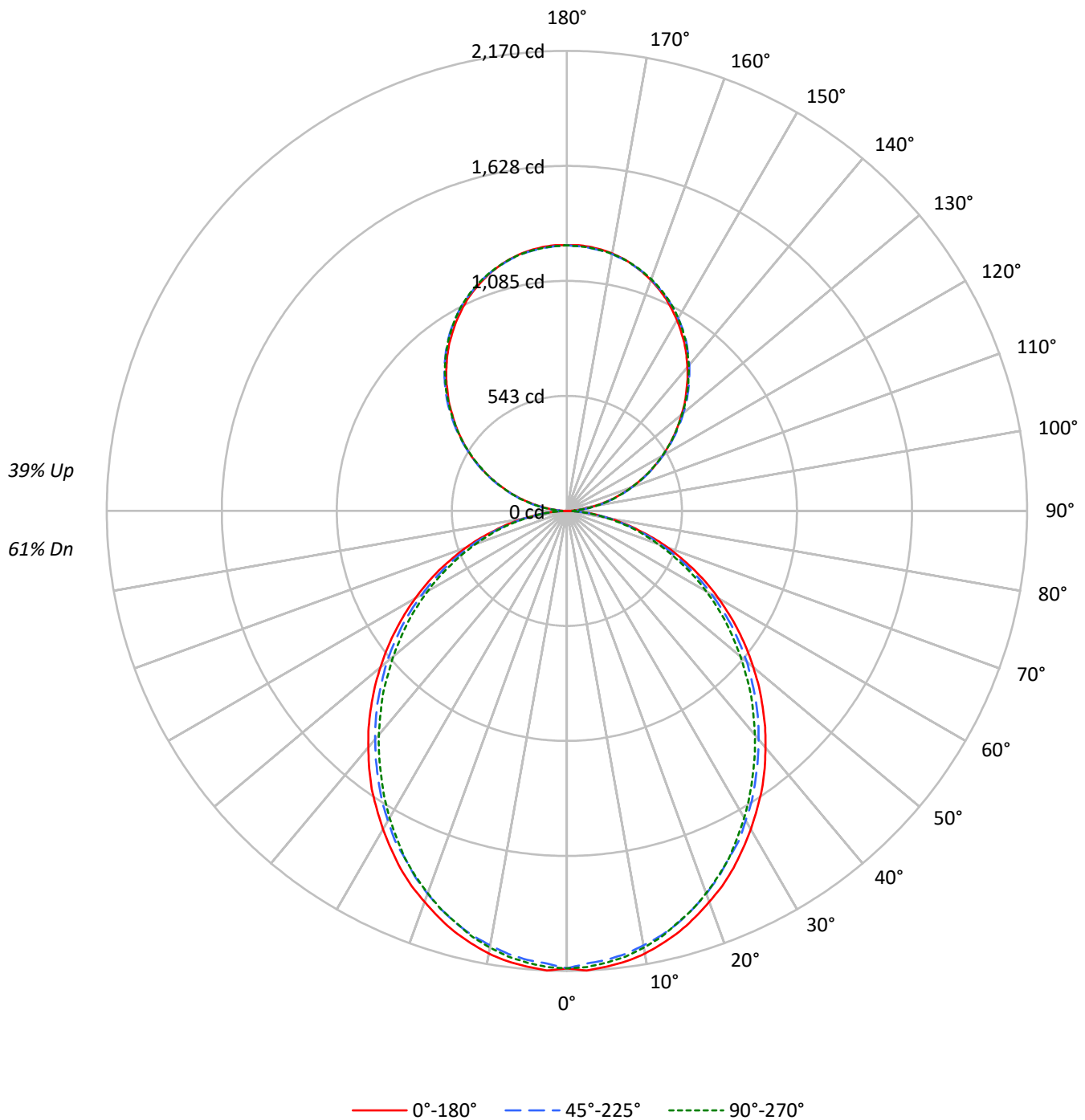
Lumens per Lamp: N/A
Luminaire Lumens: 8995.3 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 107.3
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	103	103	103	103	89	89	89		77	77	77		66
1	100	96	92	88	94	90	86	83	79	76	74		68	66	65		59
2	91	84	77	72	85	79	73	68	69	65	61		60	57	54		52
3	83	74	66	60	78	69	63	57	61	56	51		53	49	46		46
4	76	65	57	51	71	61	54	49	54	48	44		47	43	39		41
5	70	58	50	44	65	55	47	42	48	42	38		42	38	34		37
6	65	52	44	38	60	49	42	36	44	38	33		38	34	30		33
7	60	47	39	33	56	45	37	32	40	34	29		35	30	26		31
8	56	43	35	30	52	41	33	28	36	30	26		32	27	24		28
9	52	39	32	27	48	37	30	25	33	27	23		30	25	21		26
10	48	36	29	24	45	34	28	23	31	25	21		27	23	19		24

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	2.3
10°-20°	571.4	6.4
20°-30°	839.7	9.3
30°-40°	975.3	10.8
40°-50°	974.1	10.8
50°-60°	849.4	9.4
60°-70°	627.9	7.0
70°-80°	355.2	3.9
80°-90°	97.3	1.1
90°-100°	77.5	0.9
100°-110°	246.3	2.7
110°-120°	421.5	4.7
120°-130°	554.3	6.2
130°-140°	622.2	6.9
140°-150°	610.1	6.8
150°-160°	511.8	5.7
160°-170°	339.4	3.8
170°-180°	118.6	1.3
0°-30°	1614.2	17.9
0°-40°	2589.5	28.8
0°-60°	4412.9	49.1
0°-90°	5493.4	61.1
90°-120°	745.3	8.3
90°-150°	2532.0	28.1
90°-180°	3502.0	38.9
0°-180°	8995.3	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	14	37	35	36	9
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	

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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°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7

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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	11.62	12.59	12.47	13.47	14.57	11.19	12.16	12.05	13.04	14.14
	3H	13.28	14.15	14.15	15.04	16.17	12.81	13.68	13.68	14.57	15.70
	4H	13.86	14.69	14.75	15.58	16.72	13.40	14.22	14.28	15.11	16.25
	6H	14.26	15.02	15.16	15.92	17.08	13.79	14.55	14.69	15.45	16.61
	8H	14.37	15.09	15.27	16.01	17.16	13.90	14.62	14.80	15.54	16.69
	12H	14.42	15.10	15.33	16.02	17.19	13.94	14.63	14.85	15.54	16.72
4H	2H	12.09	12.91	12.98	13.81	14.95	11.75	12.57	12.64	13.46	14.60
	3H	13.96	14.64	14.86	15.57	16.72	13.57	14.25	14.47	15.18	16.33
	4H	14.67	15.29	15.58	16.21	17.40	14.27	14.89	15.18	15.81	16.99
	6H	15.18	15.72	16.10	16.67	17.85	14.77	15.32	15.70	16.26	17.44
	8H	15.33	15.83	16.26	16.77	17.97	14.92	15.43	15.85	16.37	17.56
	12H	15.40	15.86	16.35	16.81	18.02	14.99	15.44	15.93	16.40	17.60
8H	4H	14.87	15.37	15.80	16.31	17.51	14.51	15.02	15.44	15.96	17.15
	6H	15.49	15.91	16.45	16.89	18.09	15.13	15.55	16.09	16.53	17.73
	8H	15.71	16.08	16.67	17.05	18.26	15.34	15.71	16.31	16.69	17.90
	12H	15.84	16.17	16.81	17.13	18.39	15.46	15.79	16.43	16.75	18.01
12H	4H	14.86	15.31	15.81	16.27	17.47	14.51	14.97	15.46	15.92	17.12
	6H	15.52	15.89	16.49	16.86	18.08	15.17	15.55	16.14	16.52	17.73
	8H	15.76	16.09	16.73	17.05	18.31	15.41	15.74	16.38	16.70	17.96