

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: P915376

Luminaire Tested: DFN2DIP-TR3F0-070D030US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915376
REPORT IS A COMBINATION OF REPORTS P900279 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D030US927-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

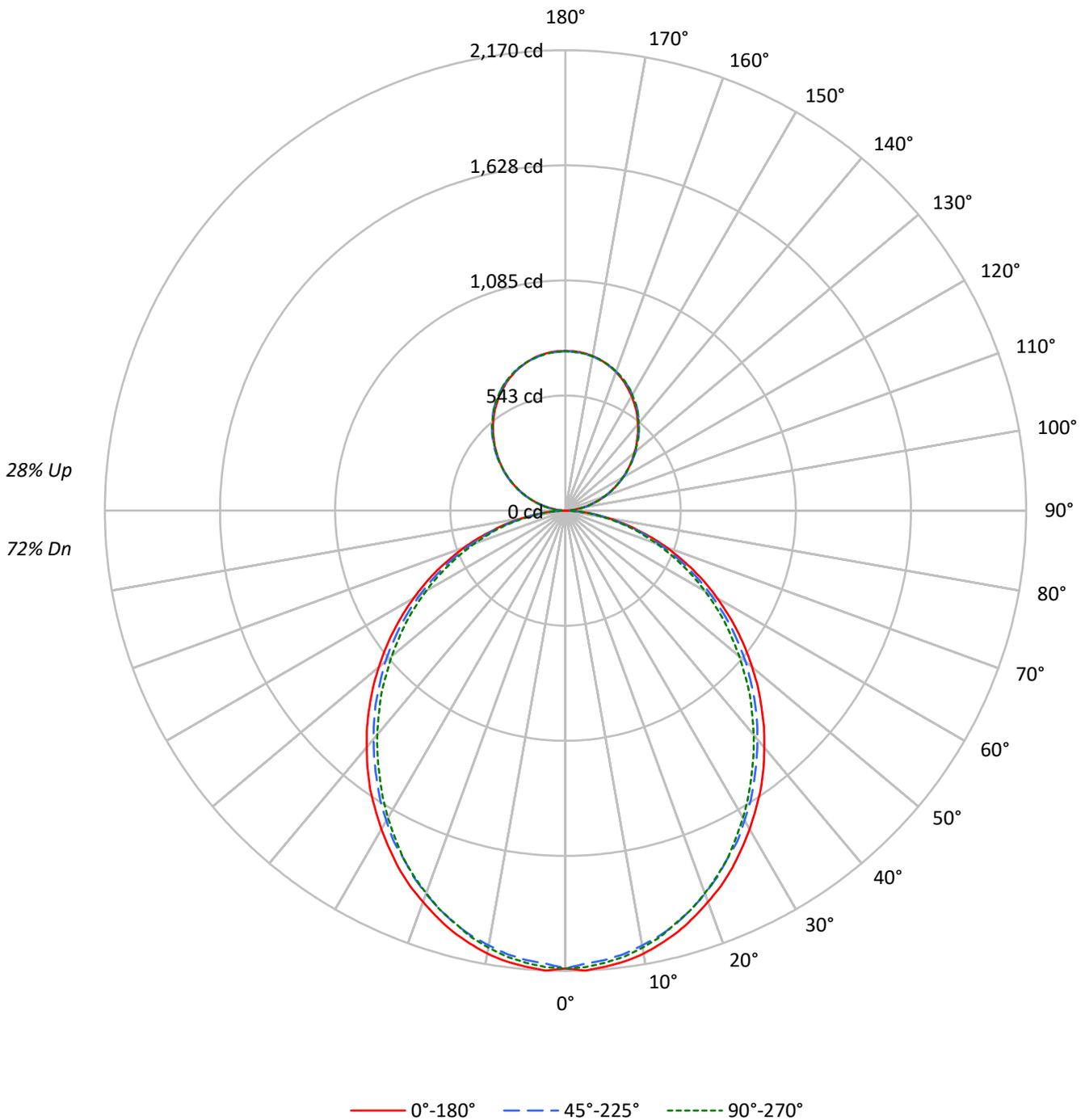
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7593.1 lumens
Efficiency: N/A
Efficacy: 81.7 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-Direct

Input Watts (W): 92.9
Input Voltage (V):
Input Current (A_{in}): 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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	112	112	112	112	107	107	107	107	96	96	96	86	86	86	77	77	77	77	77	77	72
1	103	98	94	91	97	93	90	87	84	81	79	76	74	72	68	66	65	65	65	65	61
2	94	86	80	74	89	82	76	71	74	69	65	66	63	60	60	57	55	55	55	55	51
3	85	76	68	62	81	72	65	60	65	60	55	59	54	51	53	49	46	46	46	46	43
4	78	67	59	52	74	64	56	51	58	52	47	52	48	44	47	43	40	40	40	40	37
5	72	60	51	45	68	57	49	44	52	46	41	47	42	38	43	38	35	35	35	35	32
6	66	54	45	39	63	51	44	38	47	40	36	43	37	33	39	34	31	31	31	31	28
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	35	31	27	27	27	27	25
8	57	44	36	31	54	43	35	30	39	33	28	36	30	26	33	28	25	25	25	25	23
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22	22	22	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	22	28	24	20	20	20	20	18

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	2.7
10°-20°	571.4	7.5
20°-30°	839.7	11.1
30°-40°	975.3	12.8
40°-50°	974.1	12.8
50°-60°	849.4	11.2
60°-70°	627.9	8.3
70°-80°	355.2	4.7
80°-90°	95.9	1.3
90°-100°	46.5	0.6
100°-110°	147.8	1.9
110°-120°	252.9	3.3
120°-130°	332.6	4.4
130°-140°	373.3	4.9
140°-150°	366.1	4.8
150°-160°	307.1	4.0
160°-170°	203.7	2.7
170°-180°	71.2	0.9
0°-30°	1614.2	21.3
0°-40°	2589.5	34.1
0°-60°	4412.9	58.1
0°-90°	5492.0	72.3
90°-120°	447.2	5.9
90°-150°	1519.2	20.0
90°-180°	2101.0	27.7
0°-180°	7593.1	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	8	22	21	22	7
95°	33	40	41	41	40	37
105°	136	138	140	141	141	144
115°	254	257	256	256	254	251
125°	369	375	373	371	370	330
135°	477	484	486	485	483	369
145°	580	584	588	588	586	362
155°	663	665	667	670	668	305
165°	721	720	720	725	722	203
175°	750	748	747	752	748	71
180°	752	752	752	752	752	



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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	8.2	22.2	20.8	21.5
92.5°	14.0	19.0	19.7	20.4	20.4
95°	33.1	39.5	40.6	40.6	39.5
97.5°	55.1	60.9	63.5	63.5	63.5
100°	80.4	85.6	87.5	87.5	86.8
102.5°	107.2	111.1	113.5	114.2	113.5
105°	136.4	138.2	139.6	140.7	140.7
107.5°	165.4	168.1	168.1	168.6	165.4
110°	193.5	197.2	197.2	197.2	195.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	223.9	227.8	227.0	225.2	223.9
115°	253.8	257.4	256.3	255.6	253.8
117.5°	283.4	288.4	285.3	283.4	281.6
120°	313.4	318.4	313.4	313.4	311.3
122.5°	340.6	346.9	343.7	341.9	340.6
125°	369.2	374.8	373.0	370.9	370.3
127.5°	397.0	404.0	401.6	398.8	397.0
130°	423.0	431.2	430.1	428.7	426.2
132.5°	452.3	458.6	459.1	455.9	454.1
135°	477.4	484.4	485.8	485.1	483.3
137.5°	505.5	511.2	512.3	511.9	509.1
140°	530.2	535.9	539.1	539.1	536.5
142.5°	555.6	561.3	563.1	563.8	561.3
145°	579.6	584.2	587.8	588.4	586.0
147.5°	601.2	606.8	609.5	610.7	608.2
150°	623.4	627.2	629.7	631.8	629.7
152.5°	643.1	646.9	650.1	652.6	650.1
155°	662.8	664.6	666.6	669.8	667.8
157.5°	679.8	681.1	682.3	686.8	683.7
160°	695.0	696.3	697.0	700.8	698.1
162.5°	709.0	709.0	709.7	714.0	710.8
165°	721.0	720.3	720.3	724.8	721.7
167.5°	731.9	729.8	729.8	734.4	731.2
170°	740.1	738.2	737.6	742.1	738.2
172.5°	745.7	743.9	743.2	747.7	743.9
175°	750.3	748.5	747.1	751.6	747.7
177.5°	752.7	750.9	749.6	753.4	749.6
180°	751.6	751.6	751.6	751.6	751.6



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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	12.50	13.61	13.24	14.37	15.28	12.07	13.18	12.81	13.94	14.85
	3H	14.17	15.16	14.92	15.93	16.88	13.70	14.70	14.45	15.47	16.41
	4H	14.76	15.70	15.53	16.48	17.44	14.30	15.23	15.07	16.01	16.97
	6H	15.17	16.03	15.95	16.82	17.79	14.70	15.56	15.48	16.35	17.32
	8H	15.28	16.10	16.07	16.91	17.88	14.81	15.63	15.60	16.44	17.41
	12H	15.33	16.12	16.13	16.92	17.91	14.86	15.64	15.65	16.44	17.44
4H	2H	12.99	13.93	13.76	14.71	15.66	12.65	13.58	13.42	14.36	15.32
	3H	14.87	15.65	15.65	16.46	17.44	14.48	15.26	15.26	16.07	17.05
	4H	15.58	16.30	16.38	17.11	18.11	15.18	15.89	15.98	16.71	17.71
	6H	16.10	16.72	16.92	17.56	18.56	15.70	16.32	16.52	17.15	18.16
	8H	16.25	16.83	17.08	17.66	18.68	15.85	16.42	16.67	17.26	18.28
	12H	16.33	16.85	17.18	17.71	18.73	15.92	16.44	16.76	17.29	18.32
8H	4H	15.79	16.37	16.62	17.21	18.22	15.44	16.01	16.26	16.85	17.87
	6H	16.43	16.90	17.28	17.78	18.80	16.07	16.55	16.92	17.42	18.44
	8H	16.64	17.07	17.50	17.94	18.97	16.28	16.70	17.14	17.57	18.61
	12H	16.78	17.15	17.64	18.02	19.11	16.40	16.77	17.26	17.64	18.73
12H	4H	15.79	16.31	16.63	17.17	18.19	15.44	15.96	16.28	16.82	17.84
	6H	16.46	16.88	17.32	17.75	18.79	16.11	16.53	16.97	17.40	18.44
	8H	16.70	17.08	17.57	17.94	19.03	16.35	16.72	17.21	17.59	18.68