

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: P926288

Luminaire Tested: DFN2DIP-TR3F0-070D030US950-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926288
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-TR3F0-070D030US950-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

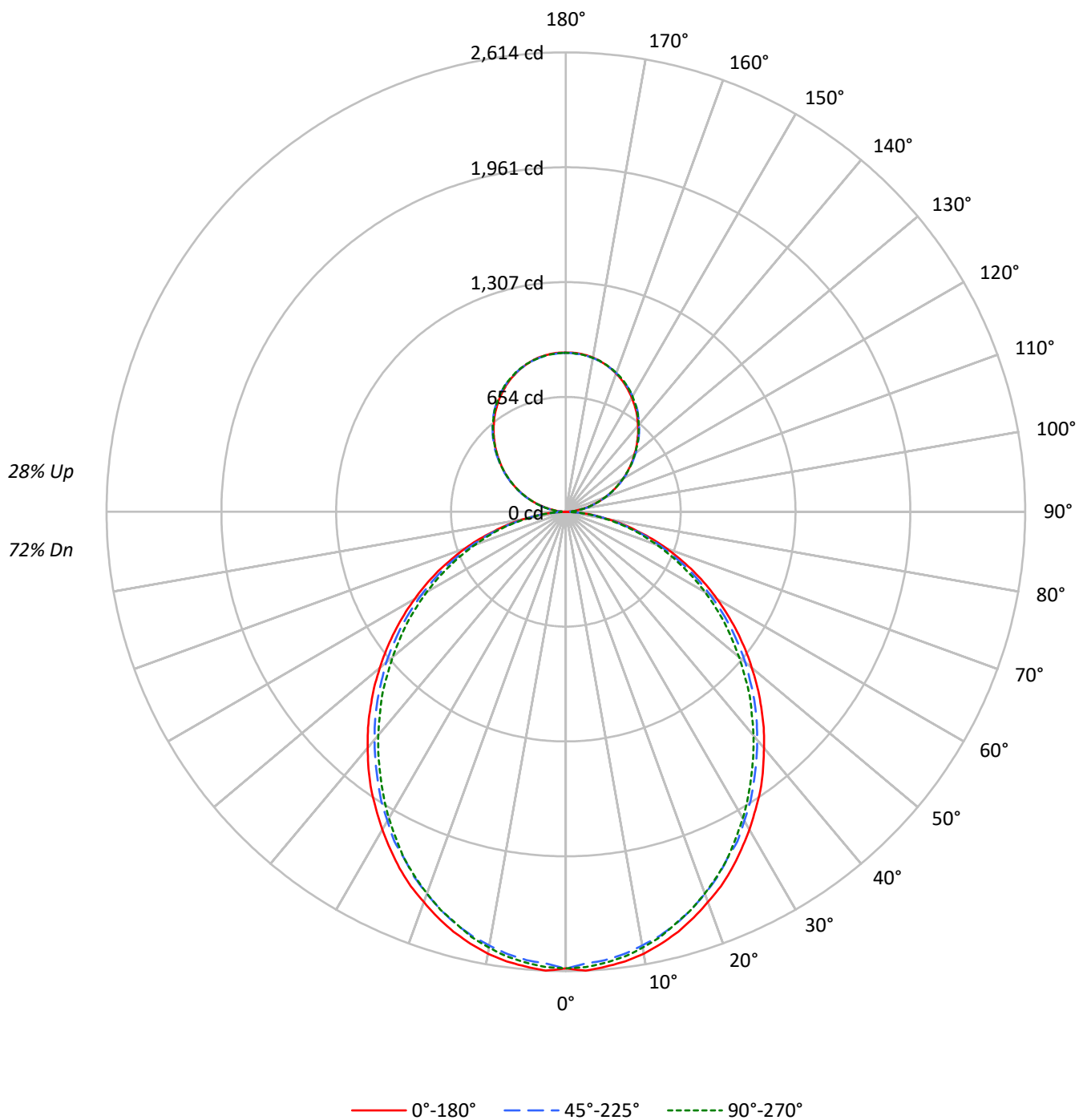
Lumens per Lamp: N/A
Luminaire Lumens: 9144.1 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3238	3238	3238
5°	3241	3190	3212
10°	3213	3144	3167
15°	3164	3090	3096
20°	3098	3015	3025
25°	3033	2927	2942
30°	2952	2844	2838
35°	2874	2747	2728
40°	2780	2648	2622
45°	2685	2550	2515
50°	2581	2446	2390
55°	2472	2326	2275
60°	2349	2184	2144
65°	2215	2037	1988
70°	2044	1857	1820
75°	1807	1641	1662
80°	1520	1365	1366
85°	1075	899	882

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2685 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.6	2.7
10°-20°	688.1	7.5
20°-30°	1011.3	11.1
30°-40°	1174.5	12.8
40°-50°	1173.1	12.8
50°-60°	1022.9	11.2
60°-70°	756.1	8.3
70°-80°	427.8	4.7
80°-90°	115.5	1.3
90°-100°	56.0	0.6
100°-110°	178.0	1.9
110°-120°	304.6	3.3
120°-130°	400.5	4.4
130°-140°	449.6	4.9
140°-150°	440.9	4.8
150°-160°	369.8	4.0
160°-170°	245.3	2.7
170°-180°	85.7	0.9
0°-30°	1943.9	21.3
0°-40°	3118.5	34.1
0°-60°	5314.4	58.1
0°-90°	6613.8	72.3
90°-120°	538.5	5.9
90°-150°	1829.5	20.0
90°-180°	2530.0	27.7
0°-180°	9144.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2598	2598	2598	2598	2598	
5°	2598	2589	2561	2581	2576	247
15°	2474	2459	2426	2436	2424	697
25°	2239	2219	2176	2181	2176	1030
35°	1932	1907	1866	1851	1839	1206
45°	1572	1554	1517	1489	1479	1213
55°	1189	1174	1144	1114	1102	1063
65°	802	787	762	740	727	793
75°	420	415	402	387	392	448
85°	102	100	98	90	88	114
90°	1	10	27	25	26	9
95°	40	48	49	49	48	44
105°	164	166	168	169	169	173
115°	306	310	309	308	306	302
125°	445	451	449	447	446	397
135°	575	583	585	584	582	444
145°	698	704	708	709	706	436
155°	798	800	803	807	804	367
165°	868	868	868	873	869	245
175°	904	901	900	905	900	86
180°	905	905	905	905	905	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2598.4	2598.4	2598.4	2598.4	2598.4
2.5°	2613.6	2601.1	2573.5	2598.4	2593.6
5°	2598.4	2588.7	2561.1	2581.0	2576.2
7.5°	2581.0	2566.1	2538.5	2558.7	2553.7
10°	2553.7	2536.1	2506.2	2526.1	2518.7
12.5°	2516.0	2501.2	2471.2	2483.6	2478.6
15°	2473.6	2458.7	2426.1	2436.2	2423.7
17.5°	2421.1	2406.3	2373.6	2386.1	2373.6
20°	2363.5	2348.7	2313.7	2321.2	2311.4
22.5°	2306.3	2283.8	2251.2	2251.2	2246.1
25°	2238.8	2218.8	2176.5	2181.2	2176.5
27.5°	2163.7	2146.2	2113.9	2106.4	2093.9
30°	2089.0	2068.7	2031.4	2024.0	2013.9
32.5°	2008.8	1994.1	1954.0	1938.9	1928.8
35°	1931.5	1906.6	1866.5	1851.4	1838.9
37.5°	1844.0	1821.5	1781.4	1763.9	1751.4
40°	1754.1	1734.0	1693.9	1671.7	1661.6
42.5°	1666.6	1646.5	1606.7	1581.5	1566.7
45°	1571.7	1554.3	1516.6	1489.3	1479.2
47.5°	1479.2	1461.7	1421.7	1394.1	1379.3
50°	1381.7	1369.2	1334.2	1299.3	1286.8
52.5°	1286.8	1269.3	1237.0	1209.4	1191.8
55°	1189.4	1174.4	1144.4	1114.5	1102.0
57.5°	1091.9	1079.5	1046.8	1016.9	1006.9
60°	994.4	984.5	949.6	922.0	914.6
62.5°	899.4	882.0	857.1	832.2	822.1
65°	802.2	787.0	762.2	739.6	727.1
67.5°	702.2	689.6	667.2	649.8	639.7
70°	609.7	599.7	577.1	559.6	549.8
72.5°	514.8	504.8	492.3	474.8	467.4
75°	419.7	414.9	402.1	387.3	392.4
77.5°	334.9	324.7	319.7	312.2	304.9
80°	249.9	247.4	242.3	234.9	229.8
82.5°	169.9	169.9	167.5	157.5	157.5
85°	102.4	100.0	97.6	89.9	87.5
87.5°	45.0	40.1	35.0	27.6	24.9
90°	0.9	9.8	26.7	25.1	25.9
92.5°	16.9	22.9	23.8	24.5	24.5
95°	39.9	47.5	48.8	48.8	47.5
97.5°	66.3	73.4	76.4	76.4	76.4
100°	96.8	103.1	105.3	105.3	104.6
102.5°	129.1	133.8	136.7	137.6	136.7
105°	164.3	166.5	168.1	169.4	169.4
107.5°	199.2	202.4	202.4	203.0	199.2
110°	233.1	237.5	237.5	237.5	235.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	269.6	274.3	273.4	271.2	269.6
115°	305.7	310.0	308.6	307.9	305.7
117.5°	341.3	347.4	343.5	341.3	339.1
120°	377.4	383.4	377.4	377.4	374.9
122.5°	410.1	417.8	413.9	411.7	410.1
125°	444.6	451.3	449.1	446.7	445.9
127.5°	478.0	486.5	483.6	480.2	478.0
130°	509.4	519.3	517.9	516.3	513.3
132.5°	544.6	552.3	552.8	549.0	546.8
135°	575.0	583.4	585.1	584.2	582.0
137.5°	608.7	615.6	617.0	616.5	613.1
140°	638.5	645.4	649.2	649.2	646.1
142.5°	669.1	675.9	678.1	679.0	675.9
145°	698.0	703.5	707.9	708.6	705.7
147.5°	724.0	730.8	734.0	735.4	732.4
150°	750.7	755.4	758.3	760.8	758.3
152.5°	774.5	779.0	782.9	785.9	782.9
155°	798.2	800.3	802.8	806.6	804.2
157.5°	818.6	820.2	821.7	827.1	823.3
160°	836.9	838.6	839.4	844.0	840.8
162.5°	853.8	853.8	854.7	859.8	856.0
165°	868.3	867.5	867.5	872.9	869.1
167.5°	881.4	878.9	878.9	884.4	880.5
170°	891.2	889.0	888.3	893.7	889.0
172.5°	898.0	895.9	895.0	900.5	895.9
175°	903.5	901.3	899.7	905.2	900.5
177.5°	906.5	904.3	902.7	907.3	902.7
180°	905.2	905.2	905.2	905.2	905.2

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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	13.15	14.25	13.89	15.01	15.93	12.72	13.82	13.46	14.58	15.50
	3H	14.82	15.81	15.57	16.58	17.52	14.35	15.34	15.10	16.11	17.06
	4H	15.41	16.35	16.18	17.13	18.08	14.94	15.88	15.71	16.66	17.61
	6H	15.81	16.68	16.60	17.47	18.44	15.34	16.21	16.13	17.00	17.97
	8H	15.92	16.75	16.71	17.55	18.52	15.45	16.28	16.25	17.09	18.06
	12H	15.98	16.76	16.77	17.56	18.56	15.50	16.29	16.30	17.09	18.09
4H	2H	13.63	14.57	14.41	15.35	16.31	13.29	14.23	14.07	15.01	15.96
	3H	15.51	16.30	16.30	17.11	18.08	15.12	15.91	15.91	16.72	17.69
	4H	16.23	16.94	17.03	17.75	18.75	15.83	16.54	16.63	17.35	18.35
	6H	16.75	17.37	17.57	18.20	19.21	16.34	16.96	17.16	17.80	18.81
	8H	16.90	17.48	17.72	18.31	19.33	16.49	17.07	17.31	17.90	18.92
	12H	16.98	17.50	17.82	18.35	19.38	16.56	17.08	17.41	17.94	18.96
8H	4H	16.44	17.02	17.26	17.85	18.87	16.08	16.66	16.91	17.49	18.51
	6H	17.07	17.55	17.92	18.42	19.44	16.71	17.19	17.56	18.07	19.09
	8H	17.29	17.71	18.15	18.58	19.62	16.92	17.35	17.79	18.22	19.26
	12H	17.42	17.80	18.29	18.66	19.75	17.05	17.42	17.91	18.28	19.37
12H	4H	16.44	16.96	17.28	17.81	18.84	16.09	16.61	16.93	17.46	18.49
	6H	17.10	17.53	17.96	18.40	19.43	16.75	17.18	17.61	18.05	19.09
	8H	17.35	17.72	18.21	18.59	19.68	17.00	17.37	17.86	18.23	19.32