

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: P921080

Luminaire Tested: DFN2DIP-TR4F0-080D100US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P921080
REPORT IS A COMBINATION OF REPORTS P900486 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-080D100US935-RLLFLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

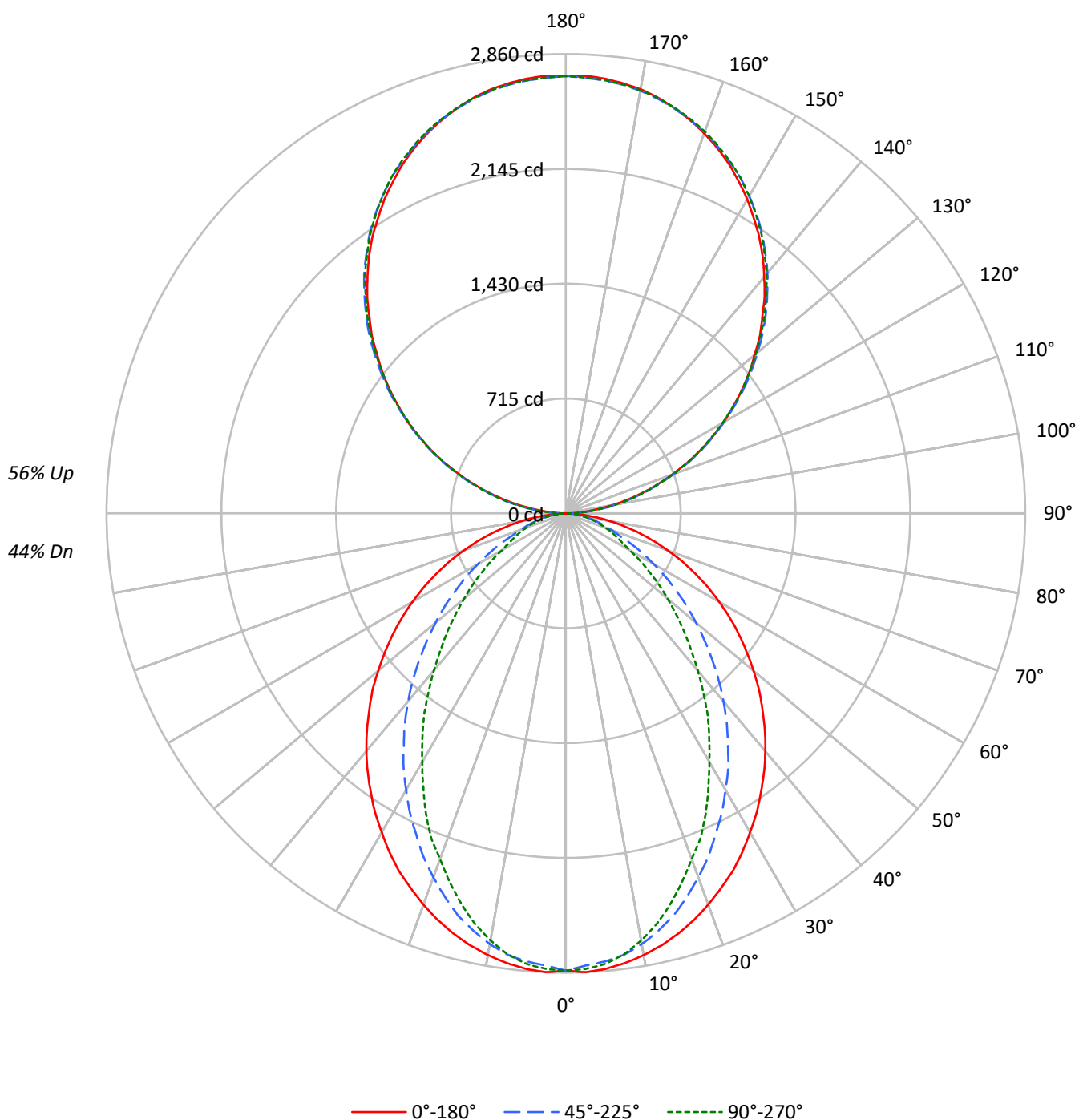
Lumens per Lamp: N/A
Luminaire Lumens: 13474.7 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 151.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44		
1	97	93	89	86	88	85	82	79	70	68	66	57	56	54	45	44	43	37		
2	88	81	75	71	81	75	70	65	62	59	55	51	48	46	40	38	37	32		
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28		
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	32	30	28	24		
5	68	57	49	43	62	53	46	41	44	39	35	37	33	30	29	27	25	21		
6	63	51	43	38	57	47	41	35	40	35	31	33	29	26	27	24	22	19		
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	25	22	20	17		
8	54	42	35	30	50	39	32	28	33	28	24	28	24	21	23	20	18	15		
9	50	39	31	26	46	36	29	25	31	25	22	26	22	19	21	18	16	14		
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	19	17	15	13		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2262	2262	2262
5°	2265	2226	2240
10°	2243	2182	2167
15°	2212	2110	2054
20°	2171	2010	1916
25°	2129	1899	1782
30°	2073	1785	1613
35°	2018	1662	1464
40°	1962	1535	1293
45°	1897	1394	1139
50°	1830	1251	988
55°	1760	1099	843
60°	1678	940	694
65°	1585	778	624
70°	1472	628	565
75°	1329	553	514
80°	1123	464	445
85°	783	309	334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2123 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.8	2.0
10°-20°	732.4	5.4
20°-30°	1028.3	7.6
30°-40°	1120.9	8.3
40°-50°	1030.3	7.6
50°-60°	809.1	6.0
60°-70°	526.6	3.9
70°-80°	271.1	2.0
80°-90°	76.9	0.6
90°-100°	168.5	1.3
100°-110°	535.4	4.0
110°-120°	916.2	6.8
120°-130°	1204.9	8.9
130°-140°	1352.5	10.0
140°-150°	1326.3	9.8
150°-160°	1112.6	8.3
160°-170°	737.8	5.5
170°-180°	257.9	1.9
0°-30°	2027.6	15.0
0°-40°	3148.5	23.4
0°-60°	4987.8	37.0
0°-90°	5862.5	43.5
90°-120°	1620.1	12.0
90°-150°	5503.8	40.8
90°-180°	7612.0	56.5
0°-180°	13474.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2847	2847	2847	2847	2847	
5°	2847	2834	2800	2824	2816	270
15°	2708	2679	2592	2543	2517	763
25°	2458	2375	2205	2100	2061	1130
35°	2118	1986	1760	1597	1540	1326
45°	1731	1559	1288	1105	1043	1337
55°	1316	1116	837	683	634	1176
65°	889	680	448	361	353	881
75°	474	294	206	188	186	501
85°	111	57	49	49	49	127
90°	2	30	80	76	78	13
95°	120	143	147	147	143	133
105°	494	501	506	510	510	522
115°	920	932	928	926	920	909
125°	1337	1358	1351	1344	1341	1195
135°	1730	1755	1760	1758	1751	1337
145°	2100	2116	2130	2132	2123	1312
155°	2401	2408	2415	2427	2419	1105
165°	2612	2610	2610	2626	2615	737
175°	2718	2712	2707	2723	2709	258
180°	2723	2723	2723	2723	2723	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2846.8	2846.8	2846.8	2846.8	2846.8
2.5°	2859.6	2846.8	2818.4	2844.3	2839.1
5°	2846.8	2834.0	2800.3	2823.6	2815.9
7.5°	2823.6	2808.2	2772.2	2782.3	2769.4
10°	2792.6	2774.7	2723.3	2715.3	2700.0
12.5°	2754.2	2730.9	2661.2	2645.8	2617.4
15°	2707.7	2679.3	2591.8	2542.9	2517.1
17.5°	2653.5	2612.3	2504.0	2447.5	2406.1
20°	2591.8	2540.1	2411.4	2347.2	2290.3
22.5°	2524.8	2465.5	2316.0	2228.5	2189.9
25°	2457.8	2375.3	2205.3	2099.8	2061.0
27.5°	2378.0	2290.3	2102.2	1981.2	1921.8
30°	2293.0	2194.9	1988.8	1857.6	1787.9
32.5°	2210.4	2091.9	1880.8	1726.1	1661.6
35°	2117.8	1986.3	1759.7	1597.4	1540.5
37.5°	2027.6	1885.8	1646.3	1468.3	1404.1
40°	1932.3	1777.8	1527.7	1344.8	1277.8
42.5°	1834.4	1669.6	1409.3	1218.6	1154.3
45°	1731.3	1558.6	1288.2	1105.1	1043.4
47.5°	1633.5	1450.6	1172.3	989.2	932.6
50°	1525.2	1342.4	1058.9	881.0	827.1
52.5°	1419.4	1226.1	950.6	780.7	731.8
55°	1316.4	1115.5	837.2	682.8	633.9
57.5°	1210.9	1004.8	736.9	592.6	551.3
60°	1102.6	896.6	631.1	499.9	458.7
62.5°	997.1	791.0	541.0	417.4	396.9
65°	888.9	680.0	448.2	360.8	352.8
67.5°	785.8	577.0	360.8	316.8	309.2
70°	677.6	476.7	298.8	273.0	262.7
72.5°	574.5	383.7	249.9	229.4	224.1
75°	474.0	293.6	206.1	188.0	185.6
77.5°	373.7	208.5	162.4	152.0	146.8
80°	280.7	149.6	123.6	113.4	113.4
82.5°	195.7	100.6	85.0	79.8	79.8
85°	110.7	56.6	48.9	48.9	48.9
87.5°	41.2	20.5	20.5	18.1	18.1
90°	2.5	29.5	80.4	75.5	78.0
92.5°	50.9	69.0	71.5	73.9	73.9
95°	119.9	142.8	147.0	147.0	142.8
97.5°	199.5	220.8	229.9	229.9	229.9
100°	291.4	310.3	316.8	316.8	314.4
102.5°	388.3	402.3	411.3	413.7	411.3
105°	494.2	500.8	505.7	509.8	509.8
107.5°	599.3	609.2	609.2	610.8	599.3
110°	701.1	714.2	714.2	714.2	707.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	811.1	825.0	822.6	816.0	811.1
115°	919.5	932.5	928.5	926.0	919.5
117.5°	1027.0	1045.1	1033.5	1027.0	1020.4
120°	1135.3	1153.4	1135.3	1135.3	1128.0
122.5°	1233.8	1256.8	1245.3	1238.8	1233.8
125°	1337.3	1357.8	1351.3	1343.8	1341.4
127.5°	1438.3	1463.7	1454.7	1444.8	1438.3
130°	1532.7	1562.2	1558.1	1553.2	1544.2
132.5°	1638.6	1661.6	1663.2	1651.7	1645.1
135°	1729.7	1755.1	1760.1	1757.6	1751.0
137.5°	1831.5	1852.0	1856.1	1854.5	1844.6
140°	1921.0	1941.5	1953.0	1953.0	1944.0
142.5°	2012.9	2033.4	2040.0	2042.5	2033.4
145°	2099.9	2116.3	2129.5	2131.9	2122.9
147.5°	2177.9	2198.5	2208.3	2212.4	2203.4
150°	2258.4	2272.3	2281.4	2288.7	2281.4
152.5°	2329.8	2343.7	2355.3	2364.3	2355.3
155°	2401.2	2407.8	2415.2	2426.6	2419.2
157.5°	2462.8	2467.7	2471.8	2488.2	2476.7
160°	2517.8	2522.7	2525.1	2539.1	2529.3
162.5°	2568.7	2568.7	2571.1	2586.7	2575.2
165°	2612.2	2609.7	2609.7	2626.1	2614.7
167.5°	2651.6	2644.2	2644.2	2660.7	2649.1
170°	2681.1	2674.6	2672.1	2688.6	2674.6
172.5°	2701.6	2695.1	2692.6	2709.0	2695.1
175°	2718.1	2711.5	2706.6	2723.0	2709.0
177.5°	2727.1	2720.6	2715.6	2729.5	2715.6
180°	2723.0	2723.0	2723.0	2723.0	2723.0

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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	9.34	10.12	10.35	11.14	12.50	5.31	6.09	6.33	7.11	8.48
	3H	11.01	11.71	12.04	12.74	14.12	6.50	7.19	7.52	8.22	9.61
	4H	11.62	12.28	12.66	13.31	14.70	6.95	7.61	7.99	8.64	10.03
	6H	12.04	12.64	13.09	13.68	15.08	7.26	7.87	8.31	8.91	10.31
	8H	12.16	12.74	13.22	13.79	15.19	7.35	7.93	8.41	8.99	10.38
	12H	12.22	12.77	13.28	13.82	15.24	7.40	7.95	8.46	8.99	10.41
4H	2H	9.35	10.01	10.40	11.04	12.43	5.90	6.56	6.95	7.59	8.98
	3H	11.17	11.72	12.23	12.78	14.19	7.25	7.80	8.30	8.86	10.26
	4H	11.86	12.37	12.92	13.42	14.85	7.79	8.30	8.85	9.35	10.77
	6H	12.38	12.81	13.45	13.88	15.30	8.21	8.64	9.28	9.72	11.14
	8H	12.55	12.95	13.62	14.02	15.46	8.34	8.74	9.41	9.81	11.25
	12H	12.64	13.01	13.73	14.09	15.53	8.40	8.77	9.49	9.85	11.29
8H	4H	11.83	12.23	12.90	13.30	14.74	8.07	8.47	9.14	9.54	10.98
	6H	12.39	12.72	13.48	13.84	15.27	8.59	8.92	9.68	10.03	11.46
	8H	12.61	12.90	13.71	13.99	15.45	8.78	9.07	9.88	10.16	11.62
	12H	12.75	13.00	13.85	14.09	15.58	8.90	9.15	10.00	10.24	11.73
12H	4H	11.78	12.14	12.87	13.22	14.67	8.07	8.44	9.16	9.52	10.96
	6H	12.37	12.66	13.47	13.75	15.21	8.64	8.93	9.74	10.02	11.47
	8H	12.59	12.84	13.69	13.93	15.42	8.85	9.10	9.95	10.19	11.68

END OF REPORT