

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: P906270

Luminaire Tested: DFN2DIP-SQ2F0-060D030US835-RLLFLL

Issue Date: 11/21/2024

**Test Information**

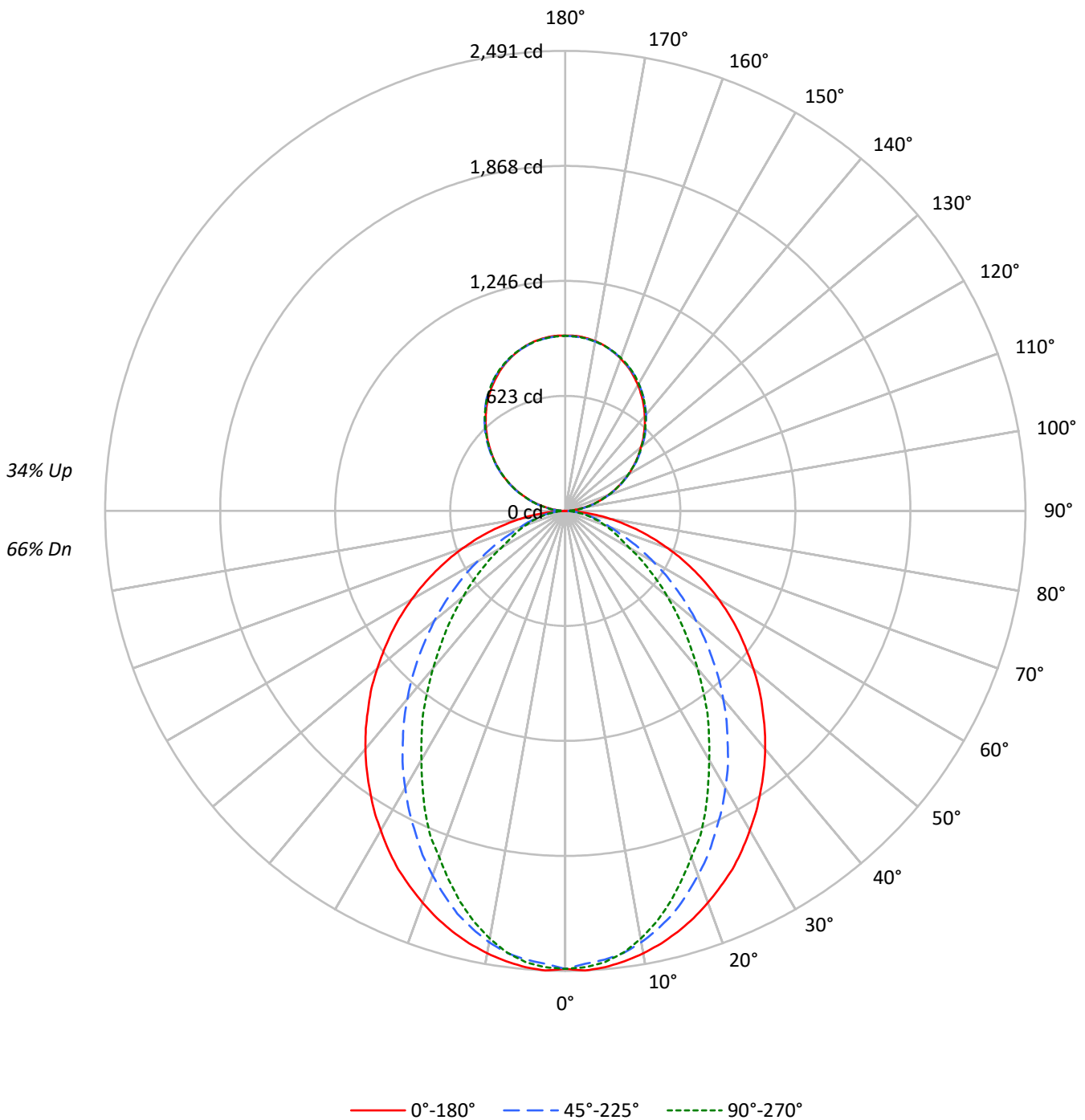
Test Method: LM-79-2019  
Report Number: P906270  
REPORT IS A COMBINATION OF REPORTS P899778 AND P896659  
Test Lab: INNOVATION CENTER  
Issue Date: 11/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DIP-SQ2F0-060D030US835-RLLFLL  
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7755.0 lumens  
Efficiency: N/A  
Efficacy: 99.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')  
CIE Type: Semi-Direct  
  
Input Watts (W): 77.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9781  
Total Harmonic Distortion (THDi): 0.075  
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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66			
1	102	98	94	91	96	92	89	86	82	79	77	72	70	69	63	62	61	57			
2	93	86	80	75	88	81	76	72	72	68	65	64	61	58	57	54	52	49			
3	86	76	69	63	80	72	66	61	65	59	55	57	53	50	51	48	45	42			
4	79	68	60	54	74	65	58	52	58	52	48	52	47	44	46	42	40	36			
5	73	61	53	47	68	58	51	45	52	46	42	47	42	38	42	38	35	32			
6	67	55	47	41	63	52	45	40	47	41	37	42	38	34	38	34	31	29			
7	62	50	42	37	59	48	40	35	43	37	33	39	34	30	35	31	28	26			
8	58	46	38	33	55	44	37	32	40	34	29	36	31	27	32	28	25	23			
9	54	42	35	29	51	40	33	29	36	31	27	33	28	25	30	26	23	21			
10	51	39	31	27	48	37	30	26	34	28	24	31	26	23	28	24	21	19			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5453	5453	5453
5°	5452	5354	5393
10°	5389	5238	5210
15°	5305	5053	4932
20°	5197	4803	4593
25°	5087	4526	4266
30°	4943	4242	3854
35°	4800	3939	3492
40°	4655	3625	3078
45°	4487	3280	2704
50°	4313	2932	2339
55°	4129	2562	1988
60°	3917	2177	1629
65°	3673	1787	1458
70°	3375	1423	1308
75°	3002	1231	1175
80°	2464	1000	996
85°	1604	621	709

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4487 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	232.4	3.0
10°-20°	638.0	8.2
20°-30°	895.7	11.6
30°-40°	976.4	12.6
40°-50°	897.4	11.6
50°-60°	704.8	9.1
60°-70°	458.8	5.9
70°-80°	236.1	3.0
80°-90°	63.0	0.8
90°-100°	58.7	0.8
100°-110°	186.5	2.4
110°-120°	319.2	4.1
120°-130°	419.8	5.4
130°-140°	471.2	6.1
140°-150°	462.1	6.0
150°-160°	387.7	5.0
160°-170°	257.1	3.3
170°-180°	89.9	1.2
0°-30°	1766.2	22.8
0°-40°	2742.6	35.4
0°-60°	4344.8	56.0
0°-90°	5102.7	65.8
90°-120°	564.5	7.3
90°-150°	1917.7	24.7
90°-180°	2652.0	34.2
0°-180°	7755.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2480	2480	2480	2480	2480	
5°	2480	2469	2439	2460	2453	235
15°	2359	2334	2258	2215	2193	665
25°	2141	2069	1921	1829	1795	985
35°	1845	1730	1533	1391	1342	1155
45°	1508	1358	1122	963	909	1165
55°	1147	972	729	595	552	1025
65°	774	592	390	314	307	768
75°	413	256	180	164	162	437
85°	96	49	43	43	43	111
90°	1	10	28	26	27	8
95°	42	50	51	51	50	46
105°	172	174	176	178	178	182
115°	320	325	324	323	320	317
125°	466	473	471	468	467	416
135°	603	612	613	612	610	466
145°	732	737	742	743	740	457
155°	837	839	842	846	843	385
165°	910	909	909	915	911	257
175°	947	945	943	949	944	90
180°	949	949	949	949	949	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2479.8	2479.8	2479.8	2479.8	2479.8
2.5°	2491.0	2479.8	2455.0	2477.6	2473.1
5°	2479.8	2468.6	2439.3	2459.6	2452.9
7.5°	2459.6	2446.2	2414.8	2423.6	2412.4
10°	2432.6	2416.9	2372.2	2365.3	2351.9
12.5°	2399.1	2378.8	2318.1	2304.8	2280.0
15°	2358.6	2333.8	2257.6	2215.0	2192.6
17.5°	2311.5	2275.5	2181.2	2131.9	2096.0
20°	2257.6	2212.6	2100.5	2044.5	1995.0
22.5°	2199.3	2147.6	2017.4	1941.2	1907.6
25°	2141.0	2069.1	1921.0	1829.1	1795.3
27.5°	2071.5	1995.0	1831.2	1725.7	1674.1
30°	1997.4	1911.9	1732.4	1618.1	1557.4
32.5°	1925.5	1822.2	1638.4	1503.6	1447.4
35°	1844.8	1730.3	1532.9	1391.4	1341.9
37.5°	1766.2	1642.6	1434.1	1279.1	1223.1
40°	1683.1	1548.6	1330.7	1171.4	1113.1
42.5°	1597.9	1454.3	1227.6	1061.4	1005.5
45°	1508.1	1357.6	1122.2	962.6	908.8
47.5°	1422.9	1263.6	1021.2	861.7	812.4
50°	1328.6	1169.3	922.4	767.4	720.5
52.5°	1236.4	1068.1	828.1	680.0	637.4
55°	1146.7	971.7	729.3	594.8	552.1
57.5°	1054.8	875.2	641.9	516.2	480.2
60°	960.5	781.0	549.8	435.5	399.5
62.5°	868.6	689.1	471.2	363.6	345.7
65°	774.3	592.4	390.5	314.3	307.4
67.5°	684.5	502.6	314.3	276.0	269.3
70°	590.2	415.2	260.2	237.9	228.8
72.5°	500.5	334.3	217.6	199.8	195.2
75°	412.9	255.7	179.5	163.8	161.7
77.5°	325.5	181.7	141.4	132.4	127.9
80°	244.5	130.2	107.6	98.8	98.8
82.5°	170.5	87.6	74.0	69.5	69.5
85°	96.4	49.3	42.6	42.6	42.6
87.5°	36.0	17.9	17.9	15.7	15.7
90°	0.9	10.3	28.0	26.3	27.2
92.5°	17.7	24.0	24.9	25.7	25.7
95°	41.8	49.8	51.2	51.2	49.8
97.5°	69.5	76.9	80.1	80.1	80.1
100°	101.5	108.1	110.4	110.4	109.6
102.5°	135.3	140.2	143.3	144.2	143.3
105°	172.2	174.5	176.2	177.6	177.6
107.5°	208.8	212.2	212.2	212.8	208.8
110°	244.3	248.9	248.9	248.9	246.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	282.6	287.5	286.6	284.3	282.6
115°	320.4	324.9	323.5	322.7	320.4
117.5°	357.8	364.1	360.1	357.8	355.5
120°	395.6	401.9	395.6	395.6	393.0
122.5°	429.9	437.9	433.9	431.6	429.9
125°	466.0	473.1	470.8	468.2	467.4
127.5°	501.1	510.0	506.9	503.4	501.1
130°	534.0	544.3	542.9	541.2	538.0
132.5°	570.9	578.9	579.5	575.5	573.2
135°	602.7	611.5	613.3	612.4	610.1
137.5°	638.1	645.3	646.7	646.2	642.7
140°	669.3	676.5	680.5	680.5	677.3
142.5°	701.4	708.5	710.8	711.7	708.5
145°	731.7	737.4	742.0	742.8	739.7
147.5°	758.9	766.0	769.4	770.9	767.7
150°	786.9	791.8	794.9	797.5	794.9
152.5°	811.8	816.6	820.6	823.8	820.6
155°	836.7	838.9	841.5	845.5	843.0
157.5°	858.1	859.8	861.3	867.0	863.0
160°	877.3	879.0	879.9	884.7	881.3
162.5°	895.0	895.0	895.9	901.3	897.3
165°	910.2	909.3	909.3	915.0	911.0
167.5°	923.9	921.3	921.3	927.0	923.0
170°	934.2	931.9	931.1	936.8	931.9
172.5°	941.3	939.1	938.2	943.9	939.1
175°	947.1	944.8	943.1	948.8	943.9
177.5°	950.2	947.9	946.2	951.1	946.2
180°	948.8	948.8	948.8	948.8	948.8



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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	14.28	15.26	15.10	16.10	17.13	10.25	11.22	11.06	12.06	13.09
	3H	15.95	16.83	16.78	17.67	18.73	11.43	12.30	12.26	13.15	14.20
	4H	16.56	17.38	17.40	18.23	19.30	11.87	12.70	12.72	13.55	14.62
	6H	16.97	17.73	17.83	18.59	19.67	12.18	12.94	13.04	13.80	14.88
	8H	17.09	17.81	17.96	18.69	19.77	12.27	12.99	13.14	13.87	14.95
	12H	17.15	17.84	18.02	18.71	19.81	12.31	13.00	13.18	13.87	14.97
4H	2H	14.32	15.14	15.17	15.99	17.06	10.85	11.67	11.70	12.52	13.59
	3H	16.14	16.82	17.00	17.70	18.79	12.19	12.88	13.05	13.76	14.84
	4H	16.82	17.44	17.69	18.32	19.43	12.73	13.35	13.60	14.23	15.34
	6H	17.32	17.86	18.21	18.76	19.88	13.14	13.67	14.03	14.58	15.69
	8H	17.49	17.99	18.38	18.89	20.02	13.26	13.76	14.15	14.66	15.79
	12H	17.58	18.03	18.49	18.95	20.08	13.32	13.77	14.23	14.69	15.82
8H	4H	16.79	17.29	17.69	18.19	19.32	13.01	13.51	13.90	14.41	15.54
	6H	17.34	17.76	18.26	18.70	19.82	13.51	13.92	14.43	14.86	15.99
	8H	17.55	17.91	18.48	18.85	19.99	13.69	14.05	14.61	14.99	16.13
	12H	17.68	18.00	18.61	18.93	20.12	13.80	14.12	14.73	15.04	16.24
12H	4H	16.75	17.20	17.66	18.12	19.25	13.02	13.47	13.93	14.39	15.52
	6H	17.32	17.68	18.25	18.62	19.76	13.55	13.92	14.48	14.85	16.00
	8H	17.53	17.85	18.46	18.78	19.97	13.75	14.08	14.68	15.00	16.20